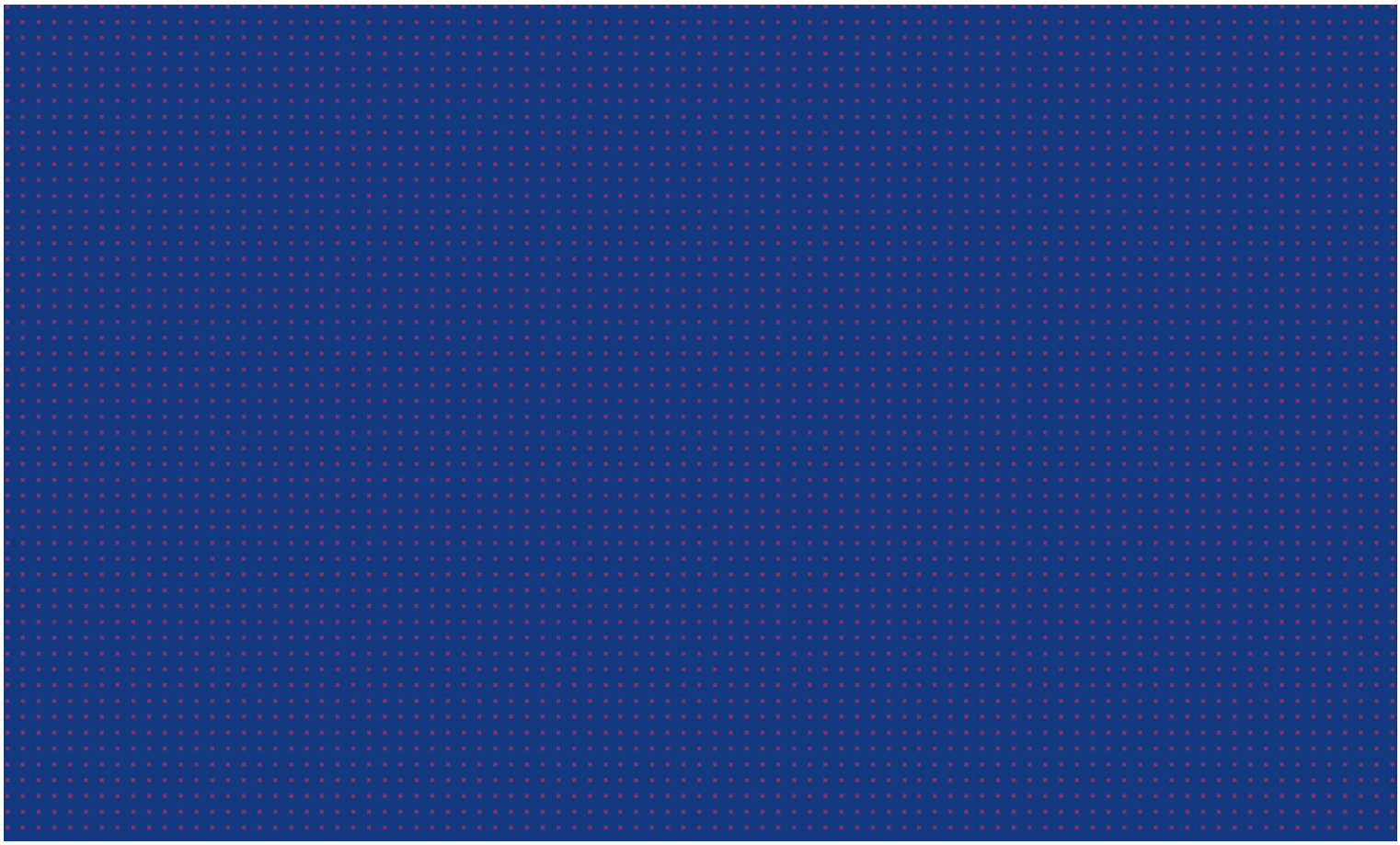

Review Outcomes – Public Report

Project:	ARNECC Functional Requirements Review
Client:	ARNECC
Date submitted:	30/11/2025

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Authorship

This document is a joint report of Warwick Sweeney of Integral Technology Solutions (Integral) ACN 097 602 901 and John Swinson of Pie Legal. Integral wrote the technical sections and Pie Legal wrote the legal sections.

Information Accuracy

The analysis contained herein is based on information provided to us by external sources. While we have applied professional diligence, we have not independently verified all source data and make no representation as to its absolute accuracy.

Reliance

This document is intended for internal use by ARNECC and its members only. While every effort has been made to ensure accuracy, Integral, Warwick Sweeny, Pie Legal and John Swinson assume no responsibility for any third-party use of, or reliance upon, the information contained herein.

Currency

The findings and recommendations contained in this report are based on conditions, legislation, and information available to the Reviewers as of 30 November 2025. The Reviewers are under no obligation to update this report if circumstances or facts change after this date.

Public Report

This document is a report that is intended to be made public. In conducting this review, the Reviewers have been provided with information from stakeholders that is confidential or proprietary, and was provided on the basis that it was for Reviewer's eyes only. This allowed a detailed deep-dive into technology and business issues that previously have not been considered as part of the interoperability program. Such information is not included in this report.

The Reviewers have also provided legal opinions to ARNECC. Those legal opinions are subject to legal privilege, and such opinions have not been included in this report. ARNECC maintains its claims of legal privilege to such information and does not waive privilege by the release of this report.

Certain organisations and people that the Reviewers consulted with have asked that they not be identified in this report, and the Reviewers have respected such requests.

1 EXECUTIVE SUMMARY

The focus of our review is to consider whether ELNO interoperability (IOP) as presently proposed and partly implemented (referred to as Model 2, direct connect in the ELNO Market Models (ARNECC, 2025)) is technically achievable, to define the interoperable functionality required to achieve it, and determine whether PEXA's intellectual property claims will prevent such implementation. Core lodgment and settlement processes were the primary consideration, including workspace creation, document preparation, financial settlement, and data exchange between ELNOs. This review also considers potential impacts on financial institutions (FIs).

During our review, Sympli announced Practitioner First (Model 3) as an interim step to reach Model 2. We also considered Model 3 in some detail and provide recommendations in respect of achieving full IOP using Model 3 as an interim step.

The cost-benefit review is being conducted by Nous. As part of that review, Nous is considering additional implementation models. We did not consider these additional models in the same level of detail as Models 2 and 3. Our summary views of all models are set out in Table 1 below.

The Reviewers wish to thank those who provided input and information for this review. In all cases, the Reviewers received strong engagement and cooperation from those asked to assist.

1.1 SUMMARY FINDINGS

- There is a viable pathway to ELNO interoperability that will support market reform objectives; however, this pathway may not achieve all outcomes as originally envisioned in relation to competition and innovation.
- Achieving full IOP is complex and will require a significant commitment from ELNO's, integrated third parties and supporting stakeholders. The timeframe for the implementation process should not be underestimated and requires deep engagement with all stakeholders to develop and implement an IOP roadmap.
- Our recommended pathway to full IOP is via an interim release, and the Model 3 (Prac First) approach proposed by Sympli provides the best foundation for an interim release. This, however, must be accepted as an interim release only with further work required to achieve full IOP and the desired market reform outcomes. We estimate a delivery timeframe of approximately 12-18 months from commencement for Model 3, enabling some IOP benefits to be realised in a much shorter timeframe than for a single full IOP release.
- A variation of Model 4 (Inter ELNO ESB) is recommended as the approach for implementing full IOP. It supports more than 2 integrated ELNOs and, importantly, best provides for non-functional governance and resilience. This will foster innovation, increasing the openness of IOP standards and APIs.

- Regardless of the implementation model adopted, it is likely that PEXA will have to undertake more development work than Sympli to achieve both interim and full IOP implementations. This needs to be considered in roadmap planning.
- Functional equivalence across all non-core Settlement and Lodgement functions is not achievable without a level of standardisation that removes the opportunities for innovation and competition. A more pragmatic definition of functional equivalence that focusses on core lodgement and settlement functions is required, including the acceptance of a degradation in practitioner experience and a short-term impact on On-Day/Time Settlement metrics.

1.2 INTEROPERABILITY CRITICAL SUCCESS FACTORS

While our review has identified a viable pathway to ELNO interoperability, several critical success factors have been identified.

- The engagement of FIs and their endorsement of the roadmap is important. FIs need to be included in the design and planning processes, including detailed technical discussions, to ensure ELNO, IOP and FI functional and integration roadmaps are aligned. Discussions with FI technical and operational teams should be conducted at a detailed level, unencumbered by confidentiality constraints while preserving ELNO independence and IP rights.
- All impacted integrating parties should be engaged in IOP release planning and validation activities, including Registries and State Revenue Offices to ensure existing integrations are verified across IOP releases.
- There are significant IOP design and integration platform governance impacts that need to be considered prior to the recommencement of the IOP program. For example, we recommend an independent Design Authority (DA) be established, to provide design governance and requirements for centralised integration infrastructure to be provisioned and managed for Model 4. Regardless of the integration architecture and IOP implementation approach adopted, the IOP API and data definitions (NECIDS) require ongoing design updates, versioning and releases, implementation support, management of ELNO adoption and compliance, and overall governance of the IOP solution domain. This could be achieved through extending the NECIDS scope to include an ELNO Interoperability Certification Framework, managed by the central Design Authority which can be responsible for the ongoing development of the NECIDS and supporting ELNO implementations. The DA is a logical extension to the role of the Interoperability Design Committee (IDC) but, importantly benefiting from independence from the ELNOs and other stakeholders (including Registries).
- PEXA raised IP and confidentiality concerns on certain known features that need to be resolved. We agree with some of PEXA's claims and disagree with other claims. Alternative designs could avoid IP conflicts but will increase the IOP implementation complexity. In addition, PEXA has identified items of functionality in the current PEXA

platform which PEXA states contribute significantly to participant experience, and the ability for on-time settlement measures to be maximised. This lack of functionality in an IOP workspace will impact participant experience in certain situations. For example, for Model 2, we believe that PEXA's confidentiality concerns will be a significant impact on the implementation of linked settlements, which will impact a material portion of e-conveyancing transactions. Electronic lodgments for interoperable transactions can be achieved without linked settlements, but removing linked settlements for interoperable transactions would have a significant negative impact on e-conveyancing functionality as a whole.

1.3 OTHER KEY FINDINGS

FUNCTIONAL EQUIVALENCE

It is an aim of the IOP project to achieve functional equivalence. Broadly, that means that participants in a transaction involving two ELNOs should be no worse off than when participating in a transaction taking place on a single ELNO. There is some debate by stakeholders as to the scope and meaning of functional equivalence.

MOR 5.7.7 requires equivalent performance in interoperable and standalone workspaces.

In our view, where there are major system changes, functional equivalence broadly defined will not be possible for any model. Changes will break things. Participants in an IOP transaction will likely have a loss of some functionality, at least compared to a transaction taking place today.

In short, IOP will have an impact on user experience, as functions on one ELNO may not exist on other ELNOs, and thus these functions likely will not work for an IOP transaction. We predict that after the operation of an IOP system for 12 to 18 months, the detriment to users in this respect will be less significant if the ELNOs make changes to their systems to accommodate such impact.

INNOVATION

Implementation of functional equivalence is likely to have a negative impact on innovation. This is because there will need to be functional coordination between the ELNOs, FIs and land registries. A change at one may impact all other system participants, and thus to ensure ongoing interoperability, there will need to be coordination and agreement. Even with a good system of governance to deal with change, innovation will be slowed by this process.

There is also an issue, which requires further consideration, as to how to deal with new intellectual property developed by an ELNO or financial institution that will be needed for use by other parties to an interoperable transaction after this new intellectual property is implemented by such ELNO or financial institution.

To balance the need for standardisation and a desire for innovation and competition, a pragmatic approach to functional equivalence is required. A reasonable balance is to ensure that:

- All functions required to complete the core eConveyancing processes of document preparation, lodgement and financial settlement can be completed efficiently with participants operating on their preferred ELNO in an IOP workspace.
- Performance metrics including ODS and OTS are not negatively impacted in a IOP environment. Note that we have identified items that are the subject of IP claims by PEXA that, if correct, will have an impact on ODS/OTS levels in an IOP transaction until alternative capabilities can be developed by additional ELNOs to achieve the same outcomes. This is a consideration for Model 4 (Full IOP) and less of a concern for Model 3 (Prac First). Specific integration scenarios between the FIs and PEXA need more detailed review to ensure impact is minimised even for Model 3.
- Outside of the core lodgement and settlement functions, ELNOs are able to build capabilities into their platforms that support their subscribers and enhance their user experience in innovative ways. There is no requirement for these functions to be replicated or made available for implementation by competing ELNOs.
- Existing ELNO capabilities outside of the core functions for lodgement and settlement remain the IP of the implementing ELNO and should not be considered as a functional benchmark for new ELNOs implementing IOP.

The scope of IOP functional requirements identified in this document are based on these principles, with requirements not considered core to the completion of core lodgement and settlement processes identified as non-mandatory. Note that participant experience may be impacted if they rely on ELNO capabilities that do not operate the same way in an IOP workspace because of this pragmatic definition of functional equivalence and IOP scope.

COMPETITION

There is no guarantee that successful implementation of an interoperable system will result in an increase in competition. First, due to the additional complexity of the system after IOP is introduced, it will be more expensive for a new ELNO to enter the market. Second, it appears to us that current participants (financial institutions, law firms, conveyancers) are conservative. Risk is a significant factor in decision-making, and changing to a different ELNO involves risk (as well as the cost of change). It is possible that there will be very little change of ELNO market share after IOP is introduced, at least for the immediate future.

MODEL 2 – DIRECT CONNECT INTEROPERABILITY

It is our opinion that Model 2 is technically achievable in a two ELNO environment. Some of PEXA's intellectual property claims may make it more difficult to implement, but in all likelihood, there will be ways to design around PEXA's intellectual property issues. However,

the implementation project will be technically complex, the resulting system will not be elegant, and there will be a need for initial and ongoing regulatory oversight.

In the short term, due to PEXA's intellectual property claims, in an IOP transaction some current features provided by PEXA to FIs likely will be impacted. This potentially will negatively impact ODS and OTS for some transactions in the short term. These issues may likely be resolved or work-arounds developed after an initial period of operation.

There are several limitations to Model 2 that need to be addressed for the full benefits of IOP to be realised.

- While technically possible, the direct connect model will not practically support scalability of the IOP environment beyond two integrated ELNOs, each ELNO has to establish integrations with all other ELNOs. Note that the FRR limited our analysis to two ELNOs, identifying that IOP becomes more complex technically and legally if there are three or more ELNOs.
- The direct connect model requires the integrating ELNOs to consider and manage failure scenarios and retry processing to ensure no disconnect occurs between integrated workspaces.
- Other non-functional considerations including the management of releases (supportability), versioning and change management (governance), and resilience of the IOP layer become more difficult to manage in a direct connect model.

If Model 2 is preferred, how the design is developed and how the IOP project should be implemented needs careful consideration. Ideally, a third party should run the process, who should consider more than just technical and functional issues. Both ELNOs and the FIs should be involved in the design process. To establish and maintain an IOP environment effectively, the ELNOs roadmaps, the FI roadmaps, and the registry roadmaps should be aligned. It will be key to involve the FIs in the design of the technology and the design of the governance model.

Even considering the above comments, Model 2 will be slow and difficult to implement. There is a real chance that after more years of work, the project will not succeed. The preferred integration architecture to deal with these challenges is (a variant of) Model 4, being a centralised orchestration model. This architecture introduces an integration layer that is responsible for coordinating transactions across ELNOs in an IOP workspace.

MODEL 4 – INTER ELNO ESB

In our view, a variant of Model 4 is the most advantageous model, considering the factors set out in Table 1 below. This is a preliminary view, as less work and no consultation has been undertaken by us in respect of Model 4.

Model 4 more easily enables additional ELNOs to be added, so the likely constraint of Model 2 (that will work with two ELNOs but is very unlikely to work with three or more ELNOs) is overcome. Model 4 can more easily allow for additional non-functional governance and

resilience. There can be better governance over the design, implementation and improvement process. Model 4 also allows easier migration to Model 6 in the future, if Model 6 is regarded as the ultimate desired state.

MODEL 3 – PRACTITIONER FIRST

Practitioner First (Model 3) is easier to implement than Model 2. Model 3 can be implemented faster than Model 2 and is likely to have significantly less impact on FIs. However, Model 3 is an interim step. Sympli says, and we agree, that it should not be the end goal. The question then becomes, what next? If Model 3 is to be implemented, it needs to be considered as a step on the road to full interoperability and as part of an overall roadmap.

As discussed above, Model 4 may be the desired end goal. It likely will be easier to move from Model 3 to Model 4, than to move from Model 2 to Model 4. Thus, a high-level roadmap may be: **current state -> Model 3 -> Model 4**.

If so, if Model 3 is implemented, it should be implemented with this roadmap in mind. The question in respect of Model 3 then becomes what is needed to make Model 3 work without hampering the pathway to Model 4. Considerations include:

- Ensuring IOP designs support transition to Model 4 for full IOP implementation.
- Engaging with FIs to ensure alignment of their integration roadmap with the Model 3 release. We believe Model 3 can be implemented as an interim step without significant impact on existing FI integrations.
- RELNO Switch requirements. The primary enabler for Model 3 is a focus on RELNO switching rules and the appropriate implementation of interim RELNO selection rules as discussed in detail in section 9.4.
- Engaging with other integrated third parties (e.g. registries, revenue offices) to ensure impacts of RELNO switching scenarios for Model 3 are validated with third party integrations.

CURRENT STATE (MODEL 1)

It is beyond the scope of our review to consider maintaining the current state. We do not express a view on whether maintaining the current state (Model 1) is preferrable (or not) to any of the interoperable models discussed above.

Our scope was on technical and intellectual property issues relating to interoperability. Model 1 does not involve these issues. One could consider the current state, with additional regulation and controls (e.g. a regulated monopoly), as an alternative to IOP. We express no view on this issue.

2 INTRODUCTION

2.1 PURPOSE

The purpose of the Interoperability (IOP) Functional Requirements Review (FRR) is to conduct an in-depth review of the Functional Requirements for Interoperability between Electronic Lodgment Network Operators (ELNOs), which are required to achieve the equivalence between interoperable and standalone Electronic Workspaces as required by Model Operating Rule (MOR) 5.7.7 and the Principles.

The review identified and defined a full list of functions, along with data elements to be exchanged, including as applicable any related rules and requirements. This may include function sequencing, triggers or any pre- and post-conditions that may be applicable.

2.2 OBJECTIVES

The IOP FRR has the following objectives.

1. To assess the current functional requirements for interoperability to determine their effectiveness in supporting seamless transactions, their alignment with subscriber and stakeholder expectations and their ability to support competition and innovation, identifying new or missing requirements to ensure IOP objectives are met.
2. To evaluate the technical and operational feasibility of the existing interoperability model, particularly the direct connect model.
3. To identify gaps or inefficiencies in the current framework that may hinder settlement readiness, financial reconciliation and participant experience
4. To support the Cost Benefit Analysis (CBA) by providing insights into the operational impacts and implementation complexity of the functional requirements.
5. To consider the impact of intellectual property ownership or confidential information claims made by ELNOs.

2.3 SCOPE

The IOP FRR scope is constrained to the functional requirements for the effective implementation of IOP for core lodgment and settlement process flows. This scope is defined to achieve interoperable transactions while supporting industry objectives for increased competition and innovation.

The specific considerations for the review are as follows:

1. What data (if any) is needed to be shared between ELNOs for any required function to work in an interoperable Conveyancing Transaction.

2. Whether any data needed can be described in the NECIDS in terms of its high-level functionality, and an API developed, deployed and used, without any party needing to disclose or use IP (such as copyright) or disclose confidential information that party may have in respect of a function. i.e., can any IP or confidential information be kept in a "black box", with only the input and output data, general descriptions of functionality and other non-proprietary information being visible to ELNOs.
3. What would happen in an interoperable Conveyancing Transaction if data elements were not provided for a particular ELN function (including impact on Subscribers).
4. Where any claim is made by an ELNO that it owns IP or confidential information that would need to be disclosed to another ELNO, or in the NECIDS, for the function to work (IP/CI Claim), the review also analyses whether:
    a. the relevant data or information is protected by IP or confidential information rights that are owned by the ELNO;
    b. disclosure of the relevant data or information to another ELNO would cause harm to the ELNO making the claim;
    c. disclosure of the relevant data or information within the NECIDS would cause harm to the ELNO making the claim; (together the IP/CI Claim Questions), and separately whether:
    d. the function can be delivered in an interoperable environment without requiring an ELNO to disclose its IP or confidential information to other ELNOs or incorporating such IP or confidential information in the NECIDS. If this cannot be achieved for a particular function, the review may identify alternative options for delivery of functionality that respects an ELNO's IP and confidential information claim.

3 BACKGROUND AND CONTEXT

3.1 OVERVIEW OF THE ECONVEYANCING PROCESS

eConveyancing is the process of completing property transactions electronically through a digital platform known as an Electronic Lodgment Network (ELN). It enables the preparation, signing, settlement, and lodgment of property transactions such as transfers, mortgages, and discharges in a secure, online environment.

The Electronic Conveyancing National Law (ECNL) underpins the legal and regulatory framework for eConveyancing, implemented or to be implemented in all jurisdictions.

eConveyancing is governed through a coordinated structure involving:

- ECNL – legislative foundation.
- ARNECC – the governing body of registrars.
- Model Participation Rules (MPRs) and Model Operating Requirements (MORs) – define operational compliance for Subscribers and ELNOs.
- Interoperability Agreement – governs ELNO-to-ELNO interaction.
- NECDS Limited – owns and manages technical data standards (including potentially NECIDS in the future).
- AusPayNet's eConveyancing Payments Code (eC1) – governs financial settlement mechanisms and obligations

3.2 KEY COMPONENTS AND PARTICIPANTS

The key components of the eConveyancing ecosystem include the ELNOs which provide exchange platforms for the delivery of electronic conveyancing transactions, the subscribers who operate on the ELNs and integrated parties including the land registries, revenue offices and financial institutions. Other systems that leverage the ELNs include Practice Management Systems (PMS) integrated via ELNO provided Application Programming Interfaces (API) and used by subscribers to complete actions within the ELN workspace.

Electronic Lodgment Networks (ELNs) - Platforms like PEXA and Sympli enable the electronic preparation, signing, lodgment, and settlement of conveyancing transactions.

Subscribers - These are the users of ELNs, including:

- Legal practitioners and conveyancers,
- Banks and financial institutions,
- Outsourced Service Providers (OSPs) acting on behalf of the above.

Land Registries - Each state and territory has its own Land Registry, which maintains the land titles register for that jurisdiction. Australia has eight land registries, all currently supporting eConveyancing.

Other Key Stakeholders – Other integrated parties including the State Revenue Offices (for duties and tax assessments), the Australian Taxation Office (ATO) (e.g. for GST withholding obligations) and the Reserve Bank of Australia (RBA) (for settlement of funds via RITS).

3.3 HIGH LEVEL PROCESS STEPS

The scope of eConveyancing to be considered for IOP between ELNOs includes the core processes required for preparation of registry instruments, financial settlement and the lodgement of documents with the registries.

CREATION OF A DIGITAL WORKSPACE

The initial creation of the ELN workspace provides the foundation for the completion of the eConveyancing transaction, and the primary processes of settlement and lodgment.

- One party (usually the practitioner representing the purchaser or vendor) creates the workspace on the ELN.
- Other parties (vendor's rep, purchaser's rep, any involved banks) are invited to participate.

From an IOP perspective the key functions required for workspace creation support the addition of participants to the workspace in the correct roles, including workspace search, subscriber search and linking.

An IOP workspace is established when a subscriber on an ELN, that is not the ELN where the workspace was created, accepts an invitation to the workspace.

DOCUMENT PREPARATION AND LODGMENT

Each workspace contains the data required to prepare the registry instruments that are to be lodged with the appropriate registry at the completion of the transaction. Common instruments include Transfers, Mortgages, Discharges, Caveats, Notices of Death, etc.

IOP must support the synchronisation of all data required to prepare the instruments for lodgment. These documents are digitally signed and verified via the ELN, and existing lodgment processes used.

FINANCIAL SETTLEMENT

The financial settlement process is critical for the completion of the transaction. Financial Line Items (FLI) are created in the workspace to define the flow of funds associated with the

transaction. Funds may be added to the workspace calculations through participant trust accounts, bank loan accounts or ELNO source accounts.

The workspace funds must balance prior to settlement, so that total funds added to the workspace must equal funds disbursed. Duties, fees, and third-party disbursements are included. All payments are routed through the RBA (via ASX integration in some cases).

In an IOP workspace, the same requirements for financial settlement including the reconciliation of disbursed funds exist. IOP must support the synchronisation of workspace data, including Financial Line Item (FLI) adjustments to ensure funds balance and financial settlement can occur. This is necessary for all IOP models including the Model 3 (Prac First) interim IOP implementation, however for Model 3 there should be minimal impact on existing FI processes.

4 INTEROPERABILITY MODELS

ARNECC has defined 6 potential ELNO Market Models, describing alternatives for achieving market reform objectives through ELNO interoperability. These models are described in the ARNECC Interoperability Cost Benefit Analysis Terms of Reference (ARNECC, 2025)

The review has considered these models in detail (except for Model 1 as discussed above), to provide alignment across the ARNECC review processes and to determine the most appropriate model for the implementation of IOP functional requirements identified throughout the review.

Table 1 provides a summary of how these models compare using a range of dimensions; impact the ability to achieve IOP reform objectives.

Table 1 - Interoperability Model Comparisons

	Technical Complexity (2 ELNOs)	Technical Complexity (3+ ELNOs)	Estimated Time to Implement	Estimated Cost to Implement	Flexibility once completed	Regulatory Complexity	Likelihood of meeting desired outcomes
Model 2: Interop Direct Connect	High Complexity (4/5)	Not feasible	2 to 3 years	High cost	Least	High	Medium (3/5)
Model 3: Practitioner First	Average Complexity (3/5)	Not feasible	18 months	Lower cost	Least	High	Worst (2/5)
Model 4: Inter ELNO ESB	High Complexity (4/5)	High Complexity (4/5)	2 to 3 years	High cost	Very good	Medium	Best (4/5)
Model 5: Hub ELNO	Least Complexity (2/5)	Least Complexity (2/5)	9 months	Lowest cost	Most – if Hub ELNO makes and control decisions	High	Worst (2/5)

Model 6: Industry ESB	Most Complexity (5/5)	Most Complexity (5/5)	5 years	Highest Cost	Most	Lowest	Best (4/5)

Notes:

1. Flexibility considers complexity to make changes, add additional ELNOs, improve and innovate.
2. Desired outcomes include functional completeness, functional equivalence and enabling competition.
3. No model has a perfect score in relation to meeting desired outcomes. This is because full functional equivalence (on the broad definition) is not possible. See section 8.

5 INTEROPERABILITY FUNCTIONAL REQUIREMENTS

5.1 FUNCTIONAL CATEGORIES

The detailed list of ELNO Interoperability Requirements (Sweeney, ELNO Interoperability Functional Requirements, 2025) provides a breakdown of IOP functional requirements and defines the total functional scope of ELNO interoperability. The following categories have been used to classify IOP functional requirements.

- Participants, Roles & Access - Who can enter/join a workspace, how roles behave, and how multi-homed subscribers are handled.
- RELNO/PELNO Governance & Orchestration - Who is responsible for which functions and how the RELNO role is assigned/switched.
- Workspace Lifecycle, Scheduling & Conversations – Deals with workspace creation, settlement scheduling, communications, and readiness.
- Documents, Attachments & Lodgement – Covering document (registry instrument) lifecycle, multi-lodgement or exotic cases, and lodgement-only scenarios.
- External Authority/Compliance (TAC, Duty, ATO) - Integration to registries and revenue offices including mandatory checks and payments.
- Financials: Categories, Payments, Balancing – Includes requirements relating to payment methods, standard categories, balancing, surplus/shortfall, and indicators.
- Source Funds: Trust & ELNO Source Accounts – Requirements that relate to the use of practitioner trust accounts and ELNO source accounts as sources of funds for settlement across ELNOs.
- Linked Transactions (Funds & Orchestration) – Requirements relating to the linking of workspaces for funds movement and coordinated execution of multiple dealings.
- Status, Indicators & Exception Handling – General requirements relating to the visibility of transaction progress, pausing, manual intervention, and cross-ELNO notifications.
- Data Model, APIs & Versioning – Support requirements to facilitate workspace synchronisation including Create, Read, Update and Delete (CRUD) API scope, and IOP schema/version alignment.
- Payments Execution & Compliance Backbone – Primarily requirements that support transaction execution that apply across features.

5.2 FUNCTIONAL DETAIL

The following sections provide additional detail on some of the foundational IOP concepts. The description of these concepts covers functionality that typically exists in a standalone workspace, extending to the specifics required for an IOP workspace to function completely.

WORKSPACE CREATION AND LIFECYCLE

Functional Requirements Reference: All

The creation of an IOP workspace occurs when participants subscribed to another ELNO are invited to an existing standalone workspace. The sequence of events that lead to an IOP workspace being established are as follows:

1. A standalone workspace is created on an ELNO, with a unique workspace ID.
2. The responsible subscriber establishes the initial workspace state including the transaction type (e.g., transfer, refinance).
3. Additional participants are invited to the workspace. The invitations are forwarded to the integrated ELNOs on which participants are subscribed.

   The ELN on which the invitations are accepted will determine whether an IOP workspace is required. If an invitation is accepted on a different ELN a workspace is created on that ELN and linked to the initial workspace. The method by which this linking occurs is ELNO specific.
4. It should also be possible for subscribers to search for, and join, an existing workspace without an invitation, where the workspace is not marked as private and join is permitted without an invitation.
5. On acceptance of an invitation and creation of a linked IOP workspace, participant roles are assigned and synchronised between workspaces.
6. As roles are assigned and the workspace state finalised the Responsible ELNO may switch from the ELNO on which the transaction was created to another integrated ELNO.
7. Based on the transaction type documents are added or removed from the workspace by participants on any integrated ELNO, updating workspace state on all ELNOs. This may include supporting documents.
8. Other workspace functions including justifications, creating and synchronising Financial Line Items (FLIs), establishing required trust account authorisations and balancing of funds across the IOP workspace will occur throughout the workspace lifecycle.
9. Status indicators will flow between integrated ELNOs in order to ensure IOP workspace state remains valid and synchronised, reflecting the actions of participants in each workspace and enabling participant notifications and actions to be completed in their

choice of ELNO and to ensure settlement readiness is timely and accurately reflected across the IOP workspace.

- All documents in the workspace requiring signing are digitally signed using certificates specific to each ELNO.
- On completion of all workspace actions associated with settlement readiness, including settlement time being reached, the workspace is locked in preparation for settlement.

PARTICIPANT ROLES

Functional Requirements Reference: 1.1,1.2

The following roles must be supported in an interoperable workspace.

- Proprietor on Title (Vendor) - The current registered owner of the property being transferred. Responsible for providing title details and authorising dealings.
- Incoming Proprietor (Purchaser) - The party acquiring the property. Responsible for providing purchaser details and settlement funds.
- Mortgagee on Title (Discharging Mortgagee) - The financial institution or lender currently holding a mortgage on the property. Responsible for preparing and signing the Discharge of Mortgage.
- Incoming Mortgagee - The lender providing finance to the purchaser. Responsible for preparing and signing the new Mortgage.
- Caveator on Title - A party with a registered caveat on the title. May need to withdraw the caveat for settlement to proceed.
- Incoming Caveator - A party lodging a caveat as part of the transaction (e.g., purchaser's caveat).
- Source Funder - A financial institution or third party providing additional funds for settlement (other than the Incoming Mortgagee).
- Representative Subscribers - Legal practitioners or conveyancers acting on behalf of any of the above roles.

In addition to these primary roles there are additional roles that may be transaction type or jurisdiction specific as follows:

- Lessor / Lessee - For lease transactions (e.g., QLD and SA leases).
- Trustee / Appointor - For trust-related dealings.
- Chargee / Chargor - For certain encumbrance or charge instruments.
- Applicant - For applications such as Transmission or Survivorship.

- Encumbrancee / Encumbrancer - For jurisdictions like SA where encumbrances are common.

These roles have specific permissions on transaction and document types within a workspace as defined in the ELNO roles matrix (Sweeney, ELN Roles Matrix, 2025; Sweeney, ELN Roles Matrix, 2025; Sweeney, ELN Roles Matrix, 2025; Sweeney, ELN Roles Matrix, 2025; Sweeney, ELN Roles Matrix, 2025).

TRANSACTION TYPES

Functional Requirements Reference: 4.1

The transaction types that must be supported by an IOP workspace include all the standard transaction types supported across all jurisdictions. They are as follows:

- Transfer of Land (Sale & Purchase) – Incorporates standard property transfers between vendor and purchaser. Includes related-party transfers and complex duty scenarios.
- Refinance - Discharge of an existing mortgage and registration of a new mortgage which typically occurs at the same time. The ELNOs must also support the concept of an Express Refinance (a fast-tracked process) in an IOP workspace
- Mortgage-Only Transactions - Registration of a new mortgage without a transfer.
- Discharge of Mortgage- Removal of an existing mortgage from the title.
- Caveat Transactions – Includes both the lodgment and withdrawal of a caveat.
- Linked Settlements - Multiple property transactions that must settle simultaneously. A typical scenario includes a sale and purchase chain.
- Linked Lodgments - Multiple lodgment cases linked for simultaneous or sequential registration. A typical scenario includes a Transfer and Mortgage across different titles.
- Lodgment-Only Transactions – These transactions include no financial settlement (other than for payment of applicable fees), only registry lodgment, for example Transmission Application, Survivorship, Notice of Death.
- Residual Document Lodgments – Typically for low-volume, specialized instruments, for example Easement, Charge, Change of Name). The definition of residual documents may be jurisdiction specific.
- Lease and Variation of Lease - Electronic lodgment of leases and amendments. These are typically jurisdiction specific.
- Priority Notice - Lodgment of a notice to reserve priority for intended dealings.
- Transmission / Survivorship Applications - For changes in ownership due to death or insolvency.

The following jurisdictional variations exist for transaction types

- Victoria - Nomination/electronic Certificate of Title (eCT) Control notifications are required when an eCT controller consents to a dealing. In Victoria complex duty handling and linked lodgments are common.
- New South Wales and Victoria - Duty verification and payment must occur before presentation.
- South Australia - Encumbrance instruments are supported.

REGISTRY INSTRUMENTS

The core registry instruments that must be capable of being prepared, digitally signed, and lodged electronically through the ELN in an IOP workspace include:

- Transfer of Land - including standard transfers, related-party transfers, and complex duty scenarios
- Mortgage - including standard mortgages and variations
- Discharge of Mortgage
- Caveat - lodgement and withdrawal
- Priority Notice - or equivalent in jurisdictions where applicable
- Transmission Application - e.g., due to death or insolvency
- Survivorship Application
- Notice of Death
- Lease and Variation of Lease - including multi-counterpart leases in jurisdictions like QLD and SA
- Administrative Notices / Nominations - e.g., Nominate eCT in VIC
- Residual Documents - jurisdiction-specific instruments not covered by standard categories

Residual documents have typically used for instruments that don't have a dedicated electronic form in the ELNO's mainstream workflows. These may include applications, notices, covenants, easement dealings). They are Lodged under each Registrar's Lodgment Rules and Residual Document Specifications.

EXOTIC LODGMENT CASES (MULTI-INSTRUMENT)

An IOP workspace must be capable of supporting multi-party/complex lodgments. Multi-party lodgment cases refer to lodgment scenarios where multiple registry instruments (dealings) are prepared by different parties and combined into a single lodgment case for submission to the Land Registry. They are typically for complex property transactions where multiple

interests or instruments need to be registered together to maintain legal priority and ensure compliance with Registrar's Business Rules. An exotic lodgement case will have one or more of the following.

Multiple Instruments: A lodgment case can include several instruments such as:

- Transfer of Land
- Mortgage
- Discharge of Mortgage
- Caveat or Withdrawal of Caveat
- Priority Notice withdrawal
- Nomination (VIC)
- Encumbrance (SA)

Multiple Subscribers: Different parties such as the vendor's representative, purchaser's representative, incoming mortgagee or discharging mortgagee, prepare and sign their respective instruments within the same lodgment case.

Single Lodgment Submission: All instruments in the case are lodged together to the Land Registry as one package, ensuring:

- Correct order of registration (priority)
- Registrar compliance (e.g., duty verification, VOI, Client Authorisation)

Responsible Subscriber: One Subscriber is designated as the Responsible Subscriber for the lodgment case. They:

- Pay the lodgment fees
- Receive requisitions from the Registrar

SUBSCRIBER SEARCH AND LINKING

Functional Requirements Reference: 1.3,1.4,1.7

In order establish an IOP workspace, participants on a standalone workspace in the initiating ELNO need to identify and invite the correct party (e.g., bank, conveyancer, solicitor) to join the workspace. Individual ELNOs maintain their subscriber directory, potentially containing ELNO specific subscriber details. Searching and linking is supported via shared or federated search capability to locate subscribers across platforms.

Search criteria will provide the ability to filter extensive subscriber listed and may include:

- Subscriber name or ID
- Role (e.g., Incoming Mortgagee, Proprietor)
- Jurisdiction or transaction type

On completion of the search if the required subscriber is found an invitation is sent to participate in the workspace. If no subscriber is found then the responsible ELNO processing for manual subscriber entry will be completed, or out of workspace escalation may occur.

Subscriber acceptance of an invitation enables the association of a subscriber with a specific role or transaction within a workspace, enabling coordinated actions across ELNOs. The effective inclusion of a subscriber in the requesting ELNO workspace (in a defined role) will require sharing permissions, notifications, and data access rights. In addition to association with the workspace, subscribers can be removed or replaced if needed to ensure flexibility in managing workspace participants. Note that subscribers may choose to link accounts they have on multiple ELNOs to ensure invitations are sent to all linked ELNO accounts. This linking is not workspace specific.

Linked subscribers can perform actions (e.g., sign documents, manage financials), and the link ensures that workspace state updates and workflow indicators are correctly attributed.

In addition to the set of APIs required to support subscriber search, linking and unlinking. other IOP considerations include:

- Security and validation mechanisms to ensure that only authorized subscribers are linked, and to apply appropriate permissions/access controls within the workspace. This is the responsibility of each ELNO to enforce based on the subscriber profile.
- Audit trails should be implemented on participating ELNOs to capture linking/unlinking events for compliance.

RELNO SWITCHING

Functional Requirements Reference: 2.1, 2.2

The rules for switching the Responsible ELNO (RELNO) in an interoperable transaction are still evolving under the ARNECC Interoperability Framework and the Model Operating Requirements (MOR). Requirements have been established for the definition of the RELNO in the context of each IOP transaction and some initial rules for how the RELNO may switch between ELNOs in an IOP workspace.

The Responsible ELNO is the ELNO that:

- Orchestrates financial settlement (including RITS batch processing).
- Controls workspace readiness checks and locking.
- Submits the lodgment case to the Land Registry.

Initially the RELNO is typically the ELNO that created the workspace or is designated as the Responsible Subscriber's ELNO. The Responsible Subscriber is typically the party who has the primary obligation to ensure the transaction is completed correctly and complies with the Registrar's Business Rules.

This role is defined under the Model Participation Rules (MPR) and Registrar's Requirements. For a mapping of transaction types to the typical Responsible Subscriber refer to ELNO Responsible Subscriber Matrix (Sweeney, ELN Responsible Subscriber Matrix, 2025). Additional detail on RELNO switching is provided in section 9.4.

RELNO SWITCHING RULES

The following rules govern the process by which the RELNO designation switches from one ELNO to another.

- Role-Based Switching - Switching RELNO is required based on participant roles, for example if the Responsible Subscriber changes from one ELNO to another.
- Capability-based switching – Switching RELNO is required based on which ELNO can perform a required function or complete a specific transaction type.

The following conditions apply when a RELNO switch occurs.

- The switch must occur before the workspace is locked
- All participants in the workspace should be notified of the change.
- The new RELNO must assume full responsibility for compliance with MOR obligations (e.g., security, audit, settlement integrity).
- Switching must not compromise workspace integrity, status indicators, or financial readiness checks.

Note that in an IOP workspace RELNO switching is particularly important for the completion of Linked Settlements and Lodgements which may require the RELNO to switch for specific transactions in the linked chain.[1]

SETTLEMENT SCHEDULING AND READINESS

Functional Requirements Reference: 3.1 - 3.5, 6.6, 6.7, 9.1 - 9.6

IOP workspaces must support the sharing of all workspace data and actions necessary to establish and optimise settlement timing. The functional requirements for settlement management cover coordination, validation, and contingency handling.

Any participant in an IOP workspace should be able to propose a new settlement date and time, modify existing settlement details and reset the workspace settlement status to "pending." In addition, an IOP workspace must support same-day settlement rollover in case of delays or technical issues and enable synchronized time management across ELNOs.

[1] There are further implications for RELNO switching from Linked Settlements that cannot be discussed here due to ELNO confidentiality constraints.

Settlement must be able to be removed from a workspace, and any linked workspaces in an IOP transaction, if the transaction is cancelled or deferred.

There are several workspace actions, and associated workspace state, that are important to ensure settlement readiness is managed correctly in an IOP workspace.[2]

All financial figures must be:

- Present and validated.
- Synchronised and finalised across participating ELNOs.
- Balanced (any surplus or shortfall has been dealt with).

Key readiness indicators must be shared across integrated ELNOs:

- Discharge Authority: Sent, returned, received, verified.
- Loan Documents: Sent, returned, received, verified.
- Insurance Certificates: Required, returned, verified.

Each participant must confirm:

- Their readiness to settle.
- That all required documents and approvals are in place.

All participants must have access to valid digital certificates for signing:

- Documents
- Financial line items

There are significant considerations for the ELNOs in implementing these readiness pre-requisites and indicators in an IOP workspace. The synchronization of settlement status across ELNOs should occur in (near) real time and the ELNOs need to implement appropriate exception handling for errors or delays in the synchronisation of workspace status indicators. The IOP design should ensure alignment of schema definitions to ensure consistent interpretation of readiness indicators.

LINKED LODGEMENTS AND SETTLEMENTS

Functional Requirements Reference: 8.1, 8.2

Linked lodgments refer to two or more separate lodgment cases that are intentionally linked so they can be lodged in a coordinated manner, usually because the registration of one case is dependent on the registration of another. This concept is critical for complex property transactions where multiple dealings across different titles or workspaces must proceed together. These are typically used when a property is being used as collateral for another

[2] There are further implications for settlement scheduling and readiness that cannot be discussed here due to ELNO confidentiality constraints.

transaction or there are related dealings across different titles or parties that must be registered together.

Linked settlements involve multiple settlement transactions that are dependent on each other. For example, where funds from one property sale are used to purchase another or a refinance and purchase transaction occur simultaneously. Linked Settlements are important for chain transactions where timing and fund flow must be tightly controlled. Without linked settlements, participants may face delays or failed transactions.

IOP workspaces must support the linking of lodgement and settlement transactions across multiple IOP and standalone workspaces. Workspaces will exist for each lodgement or settlement case, and some workspaces may be interoperable while others may be standalone.

The reconciliation of funds across multiple IOP or standalone workspaces in a linked settlement is an important consideration. Cross-workspace dependencies require synchronized updates and validations and multiple ELNOs must share real-time financial data to avoid mismatches in settlement totals across the linked settlement chain. Reconciliation checkpoints are essential to confirm that all expected funds are received and correctly applied.

JUSTIFICATIONS

Functional Requirements Reference: 1.9

Justification is the process of explaining and evidencing why the name on the title differs from the name in the transaction without necessarily lodging a formal Change of Name. This applies in some jurisdictions when the discrepancy is minor or when the party will be removed from the title upon registration. If the party will remain on the title after registration, justification alone is not enough, and a Change of Name dealing will be required to be lodged either before or with the transaction.

In an IOP workspace the PELNO collects justification evidence from its subscribers and the RELNO trusts that evidence, including it in the lodgement packet to the Land Registry.

TITLE VALIDATIONS AND AUTHORITY CALLS

Functional Requirements Reference: 2.3

Several validation checks are required to prove to the Land Registry that the person lodging a transaction has the right to deal with the land. These safeguards ensure that only the true legal owner (or authorised party) can transfer, mortgage, or otherwise deal with a property title. When documents (e.g. transfer, mortgage, discharge) are prepared in an ELNO workspace, they must pass validation checks before the Land Registry will accept lodgement. These checks may include:

> **Land Title Reference Verification (LTRV)** - Confirms that the title reference exists and is capable of electronic lodgement. Any ELNO involved in an IOP transaction may conduct an LTRV depending on subscriber operations.

Registry Information Supply (RIS) - Returns ownership details, encumbrances, and interests on the title. This can be performed by Any ELNO involved in an IOP transaction, and details returned shared within the IOP workspace.

Verification of Identity/Authority (VOI) - Subscriber (lawyer/conveyancer) must confirm they are authorised by the registered proprietor or incoming party to act, validating the identity of their client.

Digital Signing - Subscriber digitally signs on behalf of their client, binding them legally.

Title Activity Check (TAC) - Confirms that no conflicting transactions have been lodged between preparation and settlement.

Lodgement Verification (LV) – A check performed to confirm a lodgement case is ready for lodgement within the applicable jurisdiction. It may return additional information including applicable lodgement fees (on first verification for a lodgement case). Typically performed by the RELNO in an IOP transaction as it is the responsibility of the RELNO to validate the lodgement.

If all checks align, the Land Registry is satisfied the dealing is justified and can proceed to registration.

In an IOP workspace, applicable validation checks remain the responsibility of the subscriber's ELNO (PELNO or RELNO). Each ELNO must ensure its subscribers verify title details, ensure they are authorised to act and provide the required digital signatures. The RELNO then relies on the validity of these assertions when submitting to the Land Registry.

INSTRUMENT AND JURISDICTIONAL REQUIREMENTS

Functional Requirements Reference: 4.12

INSTRUMENT-SPECIFIC REQUIREMENTS

The following IOP workspace requirements apply to specific instrument types, some of which also have jurisdictional requirements/variations.

- Transfer of Land: Must include correct title references, duty verification, and supporting notices (e.g., Notice of Acquisition).
- Mortgage / Discharge of Mortgage: Must provide lender-specific certifications and include payout figures where applicable.
- Caveat / Withdrawal of Caveat: Must state the applicable estate or interest and grounds for the caveat.
- Priority Notice: Must reference the intended instruments and will expire per statutory timeframe.

- Nomination (VIC): Occurs to nominate an eCT (electronic Certificate of Title) to a dealing.
- Transmission / Survivorship / Notice of Death: Must include probate or statutory declarations as evidence (except VIC where a dealing requirement is provided, see below).
- Lease / Variation of Lease: Must meet Registrar's form and execution standards.

DEALING REQUIREMENTS (VIC)

In Victoria, dealing requirements have been introduced to support a more streamlined lodgement process. Additional information can be provided in a Dealing Requirement to support the registration of an instrument, and ELN subscribers must provide details of the Dealing Requirement in the lodgement instructions. Subscribers must ensure they obtain any required supporting evidence and selection of the appropriate requirement indicates that the subscriber has fulfilled evidentiary requirements, however the evidence does not need to be physically provided to the registrar.

VERIFICATION & CERTIFICATION REQUIREMENTS

There are a number of requirements for verification and certification that are not instrument specific as follows.

- Subscriber must certify compliance with Verification of Identity (VOI) and Client Authorisation requirements (unless they are self-represented).
- Where relevant duty must be verified or paid before presentation (MOR 10.9; Victorian SRO integration applies).

SUPPORTING DOCUMENTS

Supporting document requirements have a specific impact on an IOP workspace, requiring attachments such as statutory declarations, consents, or revenue office certificates to be uploaded in the ELNO workspace.

6 IP CLAIMS

During the review workshops with ELNOs specific IP claims were made in relation to 2 groups of IOP functional requirements.

1. Requirements currently identified for IOP to be effective and for all the core lodgment and settlement processes to complete successfully. We call these “known contested items”.
2. Requirements identified by PEXA that describe existing PEXA functions that are not publicly understood, but which will be required to meet the requirements of MOR 5.7.7b. We call these “additional contested items”.

Sympli did not make claims in respect of its IP.

In this report, we use the term “IP” to mean intellectual property and include confidential information and trade secrets.

6.1 KNOWN CONTESTED ITEMS

The FRR has identified a set of 15 known IOP requirements which have been contested by PEXA. These requirements are included in the full list of IOP functional requirements (Sweeney, ELNO Interoperability Functional Requirements, 2025).

Broadly speaking, the items are now contested by PEXA for one of three reasons:

1. The requirement is complex and difficult to implement, or may have a negative impact on the operation of one or more integrated ELNs.
2. The requirement is beyond the original scope of IOP and therefore not considered essential for completion of an IOP transaction. These claims need to be addressed in the context of requirements for functional equivalence.
3. The implementation of the requirement requires the ELNO to release specifics of their ELNO implementation which is considered IP, and such release would negatively impact PEXA’s IP rights.

Only the third issue above is a true IP issue. In effect, PEXA is maintaining its objection to some contested items, but now not on IP grounds.

The contested items are summarised in the following table.

Table 2 – Known Contested Items

Scope Item	Description	Functional Req's Ref	PEXA IP Claim	Other Considerations	Reviewer's comment
Express Refinance	Ability for a refinance transaction to be marked as an "Express Refinance".	4.10	An Express refinance is an approach to facilitating changes to the mortgagee of a property. PEXA worked with industry to agree the process standards for this type of transaction. The PEXA platform has systematised the process that was agreed with industry participants.		[legal privileged]
Attachment management	Ability to upload a non-registry document attachment to a workspace	4.7	This is contested based on scope, not IP.	PEXA have claimed that the sharing of non-registry attachments is beyond the scope of core ELN functions, therefore not required for IOP.	It is essential for the effective operation of an IOP workspace for non-registry document attachments to be shared between ELNs. An alternative approach would be for the documents to be shared outside the workspace however this is less efficient and would likely impact on time settlements and participant experience across the workspace would be diminished.
Using trust account as a source account	The use of trust accounts as source funds for the purpose of ELNO transaction settlement	7.1	This is not contested on IP.	This is contested on the basis that ELNOs will not have the required authorisation (of validation of authority) to debit trust accounts associated with participants on an integrated ELNO.	Regulatory support may be required to address this issue.

Scope Item	Description	Functional Req's Ref	PEXA IP Claim	Other Considerations	Reviewer's comment
IOP CRUD operations (Document, Party, Participant, Financial line item, Invitations, etc.)	Ability to create, retrieve, update, & delete the required IOP data objects from workspaces via the Interoperability APIs	10.1	PEXA claims their platform has built data relationships that support its orchestration of the eConveyance. PEXA claims these relationships are integral to the design and operation of the platform but are not obvious to users.		[legal privileged]
Delete Participant	Ability for a participant to withdraw from an interoperable workspace		This relates to the item above.		As per item above.
Auto Balance	Auto balance of the workspace financials when there are late changes to the mortgage payout figures	6.6, 6.7	PEXA claims that how it implements auto balance is confidential information of PEXA, and is not transparent to Subscribers. We have not detailed such information because doing so would disclose PEXA's confidential information.	When we refer to auto balance, we also include related "subsidiary" features, such as rules for determining which parties can provide excess funds, which kinds of line items are permitted to provide excess funds, and variances in which line items may and may not be balanced out by excess funds. We are aware of publications and information provided by PEXA about auto balance, such as, for example:	[legal privileged]

Scope Item	Description	Functional Req's Ref	PEXA IP Claim	Other Considerations	Reviewer's comment
				• Video https://www.youtube.com/watch?v=Okz1wIfZ-3E • https://help.pexa.com.au/s/article/Auto-Calculation-of-Vendor-Surplus-Proprietor-on-Title • https://help.pexa.com.au/s/article/Completing-the-Financial-Settlement-Schedule-FSS • https://help.pexa.com.au/s/article/Auto-Balancing-of-Source-Funds-Incoming-Mortgagee [legal privileged]	
Common indicators for transactions	Providing indicators of common requirements or agreements for settlements e.g., loan documents received by incoming mortgagee, discharge authority received by discharging mortgagee	9.1, 9.2, 9.3	Indicators are used to trigger events and events are used to set indicators. This logic is part of PEXAs unique orchestration capability. PEXA's IP claim in this regard is unclear.	PEXA states that the description of this feature oversimplifies the capability that PEXA has built and continues to extend around indicators.	[legal privileged]

Scope Item	Description	Functional Req's Ref	PEXA IP Claim	Other Considerations	Reviewer's comment
ATO	ATO Tax Withholding integrated solution. • GST is applicable. • Foreign investment capital gains taxation	5.3	This is contested based on scope, not IP.	PEXA contends it is beyond the scope of ARNECC to mandate that ELNOs support ATO requirements.	
International Disbursements	Ability to allow disbursements internationally	6.3	This is not contested on IP.	A responsible ELNO receiving an instruction from a participating ELNO is unable to look behind the payment instruction. PEXA states that it is a matter for AUSTRAC to determine if they are satisfied with the sharing of disbursement instructions being made by a responsible ELNO to an overseas recipient when the responsible ELNO has no knowledge of the AML related risk assessment of the instruction.	This requirement should be considered non mandatory for IOP, and that all vendors must have an Australian account for disbursements.
Linked Settlements	Ability for funds from one settlement to feed into another	8.1	PEXA claims that PEXA's approach to linking transactions through a common financial line item is not transparent to Subscribers, and is PEXA IP.		[legal privileged]

Scope Item	Description	Functional Req's Ref	PEXA IP Claim	Other Considerations	Reviewer's comment
			To support its approach to linked settlements, PEXA has built capabilities within its platform. PEXA states that its internal processes are original and not transparent to users. We have not detailed such information because doing so would potentially disclose PEXA's confidential information.		
Linked Lodgements	Ability for a lodgement to be done in sequence through workspace linkage	4.9	PEXA's IP claim in this regard is unclear.		The Reviewers believe that linking a lodgement for coordinated registration is relatively straight forward as a concept.
Reconciliation of transactions between RELNO and PELNO	To allow resolution of Unapplied/misapplied funds	6.9	PEXA does not appear to make an IP claim here. PEXA's issue is that this requirement is unclear.	PEXA contends that each ELNO when acting as Responsible ELNO will need to manage unapplied / misapplied funds according to its own processes.	As each ELNO deals with unapplied or misapplied funds reconciliation should occur across IOP workspaces via IOP functional support. It is the responsibility of each integrated ELN to deal correctly with these reconciliation updates.
Switching of Responsible ELNO	Workspace role and ELNO capability based RELNO switching	2.1, 2.2	PEXA does not make an IP claim here.	PEXA states that the Interoperability model requires the Responsible ELNO to be selected based on both the ELNO that hosts the Responsible Subscriber and the capability of the ELNO to execute	Under a full IOP model there is significant impact from the complete implementation of RELNO switching rules and processes. This will require significant effort from integrated ELNs and

Scope Item	Description	Functional Req's Ref	PEXA IP Claim	Other Considerations	Reviewer's comment
	• Switching of RELNO from Purchaser to IM after a workspace has been created. • Switching if RELNO does not have a connection to a Trust account. • Scope to be agreed by IOC (Interoperability Operation Committee)			the transaction. Limits to capability can include the ability to manage particular instrument types and the ability to exchange funds for financial institutions. This will lead to changes to the responsible ELNO being required when the composition of the workspace changes such as the additional of a line item for financial settlement. These changes will occur outside of the orchestration rules of the platforms and therefore it will be very difficult to manage the experience of platform users.	downstream integrated parties including financial institutions. Under an interim IOP model where a single RELNO is used for all IOP transactions it is recommended the RELNO switch occurs during workspace creation or as soon as the workspace becomes interoperable.

6.2 ADDITIONAL CONTESTED ITEMS

In addition to the known contested items detailed in section 6.1, PEXA has identified items of functionality in the current PEXA platform which PEXA states contribute significantly to participant experience, and the ability for on-time settlement measures to be maximised.

Due to confidentiality obligations, we are unable to disclose the details of this functionality. This functionality falls into two categories:

1. Copyright material, such as databases and the data in those databases.
2. Rules and processes to implement features that are not apparent to users, other ELNOs and those outside of PEXA. This is asserted to be confidential information.

In relation to the copyright material, [legal privileged].

In relation to the asserted confidential information, there are two potential issues. First, other ELNOs do not know that it exists. Second, even if they knew that it exists, they do not know the details to build it in the same way that PEXA has done. This lack of functionality in an IOP workspace will impact participant experience in certain situations.

Individual ELNOs may choose to innovate in such areas, however such similar functions created by ELNOs other than PEXA may operate differently for FIs in interoperable workspaces depending on the circumstances.

PEXA also identified additional scope items that will be complex to implement in an IOP workspace. Some of these additional scope items do not appear to raise IP issues, but because of the confidentiality obligations, out of caution we do not wish to disclose them in our report.

In general, these additional contested items will have an impact on the ability to achieve functional and performance equivalence. Alternatives will be required in some cases unless IP claims can be addressed independently of the IOP design. Where this is not possible the impacts will need to be accepted by subscribers for a period of time while alternative approaches are refined in the IOP workspace, where possible.

7 FINANCIAL INSTITUTION IMPACT

The FRR conducted review workshops with each of the 4 major FIs to determine potential impacts from the implementation of ELNO interoperability. The results of these reviews and the potential impacts on each of the institutions is summarised below.

7.1 GENERAL POSITION

The FIs provided detailed insight into their understanding of IOP and considerations for its implementation.

- The level of integration with PEXA varies significantly across institutions. Some have low levels of integration; others rely heavily on integration with PEXA features for operational efficiency and customer experience.
- Some FIs expressed concern about the loss of functionality and operational complexity introduced in a multi-ELNO environment. The importance of functional equivalence and resilience in a multi-ELNO environment was raised in relation to IOP's ability to deliver better customer outcomes compared to alternatives like price or monopoly regulation.
- FIs in general are supportive of the IOP reform however highlighted operational and integration challenges based on their current understanding of the IOP approach. Some organisations are currently focused on automation and workflow efficiency, with a roadmap to increase automation via integration to PEXA and expect IOP will have a higher impact as their level of integration increases.
- FIs want to ensure there is an appreciation of the significant levels of involvement from integrated parties in IOP implementation, including detailing how testing, verification, and release management will be coordinated across ELNOs and banks.

7.2 KEY ISSUES

FIs identified the following specific items that will have an impact on their current mortgage operations processes and systems. These items relate to specific PEXA functions that may be either unavailable or limited in an IOP workspace.

- The potential for a reduction in workspace functionality, potentially leading to a 5–10% drop in successful ODS.
- There are major reconciliation and validation concerns for the use of trust accounts across ELNOs.
- There is significant complexity in maintaining mirrored workflows and callback logic across multiple ELNOs, potentially even in a single RELNO architecture like Prac First

where sequencing of events prior to the RELNO switch occurring may not align with current processes.

- Some FIs rely on PEXA specific integrations that will impact complex settlements if equivalent functions are not available.
- Some FIs are concerned about data integrity checks and asynchronous API failures in multi-ELNO environments, and the impact on the ability to lock a workspace for settlement.
- The switching of RELNOs in an IOP workspace will lead to operational complexity and cost, potentially requiring dual onboarding, training, and integration.
- There is a need to ensure consistent API behaviour and implementation across ELNOs to support future potential integration in a full IOP environment.
- Some FIs believe the IOP discussion has focused too much on document lodgement and not enough on payment flows. They have been unable to obtain clear requirements to assess the impact on their payments systems and there is a general lack of understanding of financial settlement in the IOP requirements today.

7.3 GENERAL IMPACT ASSESSMENT

The FRR has made the following assessments about the potential impact of IOP implementation on FIs integrated with the PEXA platform.

1. FIs have varying degrees of integration between their internal mortgage processing systems and the PEXA platform. The most significant levels of integration leverage PEXA APIs to replicate workspace state in internal workflow systems. These APIs are bi-directional and the implementation of a multi-ELNO environment, where more than one ELNO could become the Responsible ELNO for a transaction, would have significant impact on integrated banks. Supporting multiple potential RELNOs likely would require additional systems integration work to all additional RELNOs.
2. The degree of integration between FIs and PEXA is likely to increase over time.
3. Each financial institution integrates with PEXA in different ways. There does not appear to be a common PEXA<>FI API that all FIs use. The impact of IOP on each financial institution is unlikely to be the same.
4. In an interim IOP model (Model 3 – Prac First) where PEXA may continue to operate as RELNO for all financial settlement processes, additional system integration to alternative ELNO's may not be required. However, there is likely impact on financial institution systems that depend on detailed triggers and orchestration sequencing API calls currently provided by PEXA during the early stages of workspace creation and lifecycle management. At a minimum, verification of the existing integrations and impact on internal workflow systems will be required for IOP transactions which may impact PEXA's workspace orchestration.

5. FIs rely on specific PEXA functionality as part of their mortgage operations processes (both integrated into their internal systems) and directly via the PEXA platform. It is unlikely these functions will operate in the same way, or may not be present, in an interoperable workspace and as such there will be degradation of participant experience of bank users in an interoperable transaction.
6. FIs in some cases maintain structural separation between teams responsible for transactions on the 2 current ELNOs. Changes that result from IOP may require internal structure changes within the financial institution and retraining of teams across ELNO platforms.
7. FIs rely on specific PEXA capabilities and data sets that they have jointly developed over time to maximise on-day settlements. Notably these items are the subject of IP claims by PEXA. It is likely that for a period of time after the implementation of IOP workspaces, settlement success rates may decrease if these items are not available to the FIs or (if possible) as other ELNO's develop the same level of joint capability and supporting data sets with the banks.
8. Some FIs consider Autobalance, Linked Settlements and Ready to Book as a suite of features that work together. These are considered to be important features for FIs.
9. This report considers only the 4 largest FIs. Other FIs and outsourced mortgage process operators for FIs who integrate with PEXA may have other issues to those discussed above.
10. Some of the FIs are bankers for or shareholders of ELNOs. As a result, the views they expressed to us may have been tempered by the relationships they have with ELNOs other than as ELNO customers/users.

8 FUNCTIONAL EQUIVALENCE

8.1 OVERVIEW

Model Operating Rule (MOR) 5.7.7 of the Interoperability Performance Standard specifies an ELNO must ensure that:

- (a) it interoperates with all other ELNOs on an equivalent basis; and
- (b) the standard of performance of its Electronic Lodgment Network (ELN) in an Interoperable Electronic Workspace is equivalent to the performance of its ELN in a non-Interoperable Electronic Workspace.

Feedback from multiple stakeholder groups indicates a lack of clarity about the definition of functional equivalence in relation to MOR 5.7.7b, specifically how it relates to equivalent performance of an IOP workspace compared to a standalone workspace.

The potential scope for ELNO interoperability and the ability for reform competition and innovation objectives to be met is critically dependent on an agreed definition of functional and performance equivalence.

Functional equivalence requires the standardisation of features and behaviours across ELNOs to ensure that:

- Subscribers can complete transactions regardless of which ELNO they or other parties are using.
- Integrated parties (e.g., banks, registries) can rely on consistent data flows, triggers, and orchestration logic.
- User experience is not negatively impacted in the completion of a transaction in an IOP workspace.
- Key performance metrics for the completion of standalone transactions should not be compromised/reduced in an IOP workspace. The primary metric that has been identified during the FRR is the percentage of On-Time Settlements (OTS) successfully completed, or from a Financial Institution perspective the percentage of On-Day Settlements (ODS) successfully completed.

8.2 FUNCTIONAL EQUIVALENCE, COMPETITION AND INNOVATION

Conceptually, as the level of standardisation increases (more functions are defined as in scope for IOP and require standardised implementations across participating ELNOs) the less opportunity exists for innovation by individual ELNOs and increased competition across the sector. The challenge in defining functional equivalence is to ensure scope of standardisation is minimised so that Innovation is not stifled while ensuring interoperability does not

compromise core functionality or negatively impact participant experience in the completion of complex transaction types.

The feedback received by the Reviewers indicates that the accepted definitions of Functional equivalence range from:

- Equivalence in performance of ELN operations in an IOP workspace, ensuring system responsiveness and the orchestration of workspace operation is consistent (or no worse) in an IOP workspace compared to a standalone workspace; to
- The functions available to participants in an interoperable workspace must be the same for all participants on all ELNs, and any functions not available on all ELNs must be disabled by ELNOs that do provide the function.

Innovation benefits may be illusory if interoperability requires functional equivalence to be defined such that all ELNOs must have the same or similar features. Scenarios that may impact the commercial benefits of investing in innovation include:

- If a financial institution requests their ELNO to develop a new feature, will all ELNOs then have to build this feature to ensure ongoing interoperability?
- If an ELNO develops an advanced optional feature, will all subscribers be required to upgrade to this advanced optional feature once one subscriber starts to use it?

In order to balance the need for standardisation and a desire for innovation and competition, a pragmatic approach to functional equivalence is required. A reasonable balance is to ensure that:

- All functions required to complete the core eConveyancing processes of document preparation, lodgement and financial settlement can be completed efficiently with participants operating on their preferred ELNO in an IOP workspace.
- Performance metrics including ODS and OTS are not negatively impacted in a IOP environment. Note that the Reviewers have identified items that are the subject of IP claims by PEXA that will have an impact on ODS/OTS levels in an IOP transaction until alternative capabilities can be developed by additional ELNOs to achieve the same outcomes.
- Outside of the core lodgement and settlement functions, ELNOs are able build capabilities into their platforms that support their subscribers and enhance their user experience in innovative ways. There is no requirement for these functions to be replicated or made available for implementation by competing ELNOs.
- Existing ELNO capabilities outside of the core functions for lodgement and settlement remain the IP of the implementing ELNO and should not be considered as a functional benchmark for new ELNOs implementing IOP.

The scope of IOP functional requirements identified in this document are based on these principles, with requirements not considered core to the completion of core lodgement and settlement processes identified as non-mandatory. It is important to note that participant

experience may be impacted if they rely on ELNO capabilities that do not operate the same way in an IOP workspace because of this pragmatic definition of functional equivalence and IOP scope.

9 INTEROPERABILITY IMPLEMENTATION APPROACH

There are several options for the phased implementation of IOP across the eConveyancing ecosystem. Phasing can be based on:

- Incremental implementation of transaction types (supported registry instruments) with simpler transactions implemented first, moving to more complex multi-party and exotic transactions over time.
- Incremental implementation of IOP functionality, with complex capabilities (e.g RELNO portability) implemented in subsequent phases
- Full implementation of IOP functionality across all transaction types in a single release.

The following sections consider the pros and cons of each option.

9.1 PHASED TRANSACTION TYPE IMPLEMENTATION

The basis of this approach is to start with low-risk, high-volume transaction types and gradually expand to more complex scenarios like transfers and linked settlements.

KEY FEATURES

- Initial release would support simple multi-party transactions (e.g., 2-party refinance). Based on current state any banks participating in this type of transaction would use PEXA, resulting in a single RELNO for simple transactions.
- Subsequent releases would introduce more complex multi-party and linked transactions once stability is proven. This will necessitate the incremental introduction of role and capability based RELNO switching, requiring uplift in workspace data synchronisation and integration of all ELNO's with financial institution systems.

ADVANTAGES

- Lower risk of disruption to current financial institution processes.
- Minimises the need for additional ELNO integration to 3rd parties including FIs.
- Allows for incremental implementation, testing and refinement of IOP functions based on prioritised transaction types.
- Easier change management for banks and practitioners.

DISADVANTAGES

- May delay achieving full functional equivalence as the roadmap to full IOP implementation is defined.

- Delays ELNO competition across other more complex transaction types.
- Could require hybrid workflows within FIs across their ELNO teams.
- Increases complexity when IOP unsupported instruments are added to an existing IOP workspace, requiring the workspace to become non-interoperable.

9.2 PHASED IOP CAPABILITY IMPLEMENTATION

Phasing the implementation of IOP based on interoperable capabilities provides an alternative approach to earlier realisation of IOP benefits. Given the limited scope for functionality to be delayed while realising competition benefits, a simple 2 phase model is most appropriate.

Under this model all (or high value) transaction types would be supported in an IOP environment, necessitating the implementation of most IOP functional requirements in the first phase. On this basis the functional components of interoperability that could be considered for delivery in a subsequent phase include:

- Portability of subscribers between ELNOs, with subscriber accounts existing on, and synchronised between, multiple ELNOs.
- Switching of the RELNO during the transaction lifecycle, maintaining a single RELNO for all IOP transactions minimising the need for changes to 3rd party integrations for financial settlement and lodgement of registry instruments.
- Integration of all ELNOs to FIs for execution of workspace activities and sharing of workspace state and orchestration flags with FI systems. The issue of FI integration is largely outside the scope of IOP Functional Requirements however has a significant impact on the IOP implementation roadmap.

The Reviewers have formed the view that the Sympli proposed Model 3 (Prac first) is closely aligned with this approach and would be a suitable interim implementation for the phasing of IOP rollout.

KEY FEATURES

- Interim IOP implementation supporting all high value transaction types, dependent on jurisdiction. This initial phase would provide data sharing between ELNOs in an interoperable workspace, with all functional requirements implemented to support all transaction types. Subscribers would continue to operate on their preferred ELN, with participants joining a workspace in response to invitations across multiple ELNs.
- Under an interim IOP implementation, when an IOP workspace is created (at the point a participant accepts an invitation to the workspace on a second ELNO), the RELNO will automatically be set to PEXA and remain with PEXA while the workspace remains interoperable.

- The subsequent implementation phase will establish full IOP, consisting of the implementation of the following capabilities:
    - Integration between all participating ELNOs and FIs to support flow of workspace state and orchestration triggers to bank workflow systems to support RELNO portability.
    - Implementation of RELNO and Responsible Subscriber rules consistent with NECIDS designs, to enable RELNO switching between ELNOs based on both subscriber roles and ELNO capability.
    - Synchronisation of subscriber profiles/accounts between ELNOs to enable subscriber portability and increased redundancy. This may require onboarding processes to be completed on all ELNOs for subscribers that wish to maintain multiple ELNO accounts.

ADVANTAGES

- Flexibility for subscribers to use the preferred ELNO for each transaction.
- Supports jurisdictional and functional diversity, increasing competition across transaction types to realise competition benefits earlier in the IOP implementation roadmap.
- Minimises impact on existing FI system integrations during the interim IOP implementation phase.
- Enables IOP benefits to be realised while full IOP implementation is designed and delivered. Full IOP will require significant time and cost to implement.

DISADVANTAGES

- Operational complexity for banks during the transition phase from interim to full IOP (e.g., dual integrations, training considerations for teams).
- Risk of data misalignment and workflow disruption during transition from interim IOP to full IOP
- May delay achieving full functional equivalence as the roadmap to full IOP implementation is defined.
- Potential for participating ELNOs to be selective in the types of transactions implemented based on commercial returns. Alternative fee sharing arrangements may be required to address this.

9.3 FULL IOP IMPLEMENTATION

As an alternative to either of the phased IOP implementations, full IOP delivery in a single release could be considered. This provides full interoperability capabilities across all ELNOs and transaction types simultaneously.

KEY FEATURES

- All ELNOs support full CRUD operations on shared data objects.
- Real-time synchronisation of workspace states for all transaction types.
- Full suite of IOP supporting functions including Subscriber choice of RELNO and linking of multi-homed subscriber accounts where they exist, RELNO portability and FI integration implemented from day 1.

ADVANTAGES

- Delivers true interoperability and consistent user experience. Provides a foundation to support innovation and competition from the initial release.
- Minimises change management and verification cycles across the end-to-end process, reducing change impact on integrated 3rd parties.

DISADVANTAGES

- High complexity and risk, with a longer implementation delaying benefits realisation.
- Requires deep integration and coordination across ELNOs, banks, and regulators. Roadmaps for integration of all ELNOs with FI systems are not defined and would require significant implementation effort to ensure FI operations, where integration to ELNOs currently exists, are not impacted.
- Potential for settlement failures if issues arise as a result of having no incremental phases to bed in and test core IOP functions.
- To achieve full IOP and support ongoing extensibility an alternative integration architecture is recommended. See section 9.5. Moving to full IOP in a single phase would require existing direct connect API implementations to be redeveloped.

9.4 PREFERRED APPROACH

Based on the options identified during the FRR, the Reviewers have formed the view that the phased capability approach (section 9.2) for IOP implementation provides the best opportunity to realise the benefits of IOP reform. This is based on the implementation of Model 3 (Prac first) as an interim stage, moving to Model 4 for full IOP.

- The timeframe to implement interim IOP will be significant but lead to interoperable transactions in the shortest timeframe.
- It provides a path to IOP that minimises impact on FI integrations. There will be an impact, but the interim IOP implementation will enable this to be minimised while realising IOP benefits.
- The path from interim IOP to full IOP will be constrained by the roadmap for all participating ELNOs to implement integration with FI workflow systems to support mortgage operation processes.
- The design and implementation of full IOP involves further significant design jointly considered with integrated 3rd parties, will necessitate a change to the IOP integration model to realise long term multi-ELNO benefits, and will require a long delivery window. The outcomes from the implementation of interim IOP should be leveraged to inform the design, implementation and change management processes for full IOP.
- Regardless of the implementation model adopted, it is likely that PEXA will have to undertake more development work than Sympli to achieve both interim and full IOP implementations. This needs to be considered in roadmap planning.

RELNO SWITCHING FOR INTERIM IOP

One of the critical considerations for the implementation of the phased capability approach is how RELNO switching occurs and the scenarios that need to be considered. This is important even for interim IOP as decisions on which integrated ELNO will take the role of RELNO in a transaction cannot be determined until the workspace state has been determined.

The concepts of RELNO and Participating ELNO (PELNO) exist only in an IOP workspace, that is where multiple participants in a single workspace are operating on different ELNOs in the same transaction. The RELNO is the ELNO that orchestrates settlement and lodgment in an interoperable workspace. Other ELNOs hosting participants in the same workspace are considered PELNOs.

Workspaces are dynamic, the final construct of the workspace is determined over time as participants join after the workspace is created and during preparation of registry instruments. The ELNO hosting the Responsible Subscriber is typically the RELNO for any transaction, for details on responsible subscribers for each transaction type refer to ELN Responsible Subscriber Matrix (Sweeney, ELN Responsible Subscriber Matrix, 2025), but this can change when:

- A higher-priority participant joins the workspace (role-based switch).
- The current RELNO cannot settle due to a capability gap (capability-based switch).

It is important that any RELNO switch is triggered immediately conditions are met (not at settlement time). Across all IOP scenarios there are other considerations for RELNO switching that result in complexity to be resolved during detailed design. For example, after a workspace

is established, if a customer (buyer) changes banks, then the RELNO will change. This could result in a change of RELNO from PEXA to Sympli (or vice versa) late in the workspace lifecycle. The later a RELNO switch occurs handling the switch becomes more complex, with [3]actions associated with financial settlement and reconciliation potentially impacted.[4]

INTERIM IOP RELNO SWITCHING OVERRIDE

Under the Interim IOP implementation the RELNO switching approach changes where PEXA will always act as the RELNO in any interoperable workspace. This override applies regardless of the NECIDS Responsible Subscriber hierarchy, or which ELNO created the workspace. The purpose of this approach is to ensure bank settlement and reconciliation processes remain unaffected during the initial phase of interoperability rollout.

For Interim IOP the RELNO switch rules will be modified as follows:

- If any PEXA participant joins the workspace, PEXA becomes RELNO immediately.
- No further switching occurs while PEXA participants remain.
- Even if hierarchy would nominate Sympli (e.g., cash purchase, no bank), PEXA remains RELNO.
- There are impacts on RELNO switching during the completion of a group of linked settlements.
- Switch occurs at participant join, never at settlement time. This ensures no “last-minute” switching before lock.

INTERIM IOP RELNO SWITCHING SCENARIOS

Various workspace creation and RELNO switching scenarios are considered below to demonstrate how these scenarios are dealt with conceptually in an Interim IOP Release.

1. Purchaser on Sympli, Vendor on PEXA.
    - The workspace is created on Sympli by the Purchaser.
    - The Purchaser invites Vendor via a subscriber invitation to PEXA
    - Workspace becomes interoperable when the Purchaser accepts the invitation
    - Sympli is initially the RELNO, then immediately relinquishes to PEXA once the Purchase accepts the invitation.

[4] The Reviewers have been made aware of detailed functions in PEXA relating to financial line items and reconciliation processes that will be impacted by a late RELNO switch. Specific details cannot be provided due to confidentiality requirements.

- Interim IOP RELNO switch override applies even though the NECIDS hierarchy would keep Sympli as the RELNO.

2. Purchaser on Sympli, Incoming Mortgagee on PEXA
    - The workspace is created on Sympli by the Purchaser.
    - Purchaser invites Incoming Mortgagee via a subscriber invitation to PEXA
    - IM accepts the invitation, the workspace becomes interoperable, and PEXA becomes RELNO.
    - NECDS Hierarchy and Interim IOP override both agree on PEXA as RELNO.
3. Cash Purchase, both IP and POT subscribed to Sympli
    - Workspace initially created on Sympli, Vendor joins via an invitation on PEXA
    - NECIDS Hierarchy says Sympli should remain RELNO as Responsible Subscriber on Sympli.
    - Interim IOP override ensures PEXA becomes RELNO.
4. Bank withdraws from workspace, Vendor on PEXA
    - PEXA still present in IOP workspace via Vendor
    - Interim IOP keeps PEXA as RELNO, Sympli does not regain RELNO even though NECIDS hierarchy would nominate it.
5. All PEXA participants withdraw, Purchaser and Vendor on Sympli
    - Workspace becomes Sympli-only
    - Workspace is no longer interoperable hence no RELNO and single-ELNO rules apply.

IMPLEMENTATION CONSIDERATIONS

The capability phasing approach does have impacts across the eConveyancing ecosystem even for the interim IOP phase, that need to be considered. While the proposed model of maintaining a single RELNO for all IOP transactions at a high level minimises the changes required to current 3rd party integrations there are functional and non-functional impacts.

- Due to the RELNO nomination occurring at the point a workspace becomes interoperable, and the timing of this is dependent on the order of participants joining the workspace, there are scenarios which may result in workspace operations being completed by the initiating ELNO prior to the RELNO being established. This may include authority calls or other operations which impact workspace state. While impact on 3rd party integrations is expected to be minimised the change management and validation impact on all integrating parties to deal with these scenarios shouldn't be underestimated. For example, verification of the end-to-end settlement process

where Revenue Office calls may have been completed by one ELNO that is not ultimately the RELNO completing settlement operations

- Linked settlements that involve multiple workspaces add complexity to the RELNO determination, particularly where some workspaces in a linked group may be non-interoperable and existing on an ELNO other than PEXA. There are IP implications for the completion of linked settlements across multiple ELNOs in both interim and full IOP implementations that need to be resolved.[5]
- The interim IOP implementation should be possible using the direct connect integration approach between existing ELNOs, leveraging IOP work completed previously. To achieve full IOP and support ongoing extensibility an alternative integration architecture is recommended. See section 9.5.

9.5 CENTRALISED ORCHESTRATION INTEGRATION ARCHITECTURE

The initial IOP integration design is based on a point-to-point (direct connect) integration between existing ELNOs. The point-to-point model requires IOP APIs to be implemented by each participating ELNO, with direct (synchronous) API requests and associated responses flowing between ELNOs based on workspace interactions and triggers. This integration architecture is sufficient for synchronisation of workspace state and initial implementations of IOP. Based on information provided to the FRR, the Reviewers have determined that achieving IOP is generally more complex than currently understood by participants in the design process, and current designs must be revisited to accommodate this complexity.

There are several limitations to the current IOP model that need to be addressed for the full benefits of IOP to be realised.

- The direct connect model will not practically support scalability of the IOP environment beyond 2 integrated ELNOs. Note that the FRR limited our analysis to the two ELNOs, identifying that IOP becomes more complex technically and legally if there are 3 or more ELNOs?
- The direct connect model requires the integrating ELNOs to consider and manage failure scenarios and retry processing to ensure no disconnect occurs between integrated workspaces.
- Other non-functional considerations including the management of releases (supportability), versioning and change management (governance), and resilience of the IOP layer become more difficult to manage in a direct connect model.

The preferred integration architecture to deal with these challenges is a centralised orchestration model. This model is similar in concept to Model 4 described in the ARNECC

[5] The Reviewers have been made aware of existing functions, subject to IP claims, that will be impacted by linked settlements being processed across multiple ELNs that cannot be disclosed in this report.

Market Models (ARNECC, 2025), and is shown conceptually in Figure 1 - Centralised Orchestration Architecture.

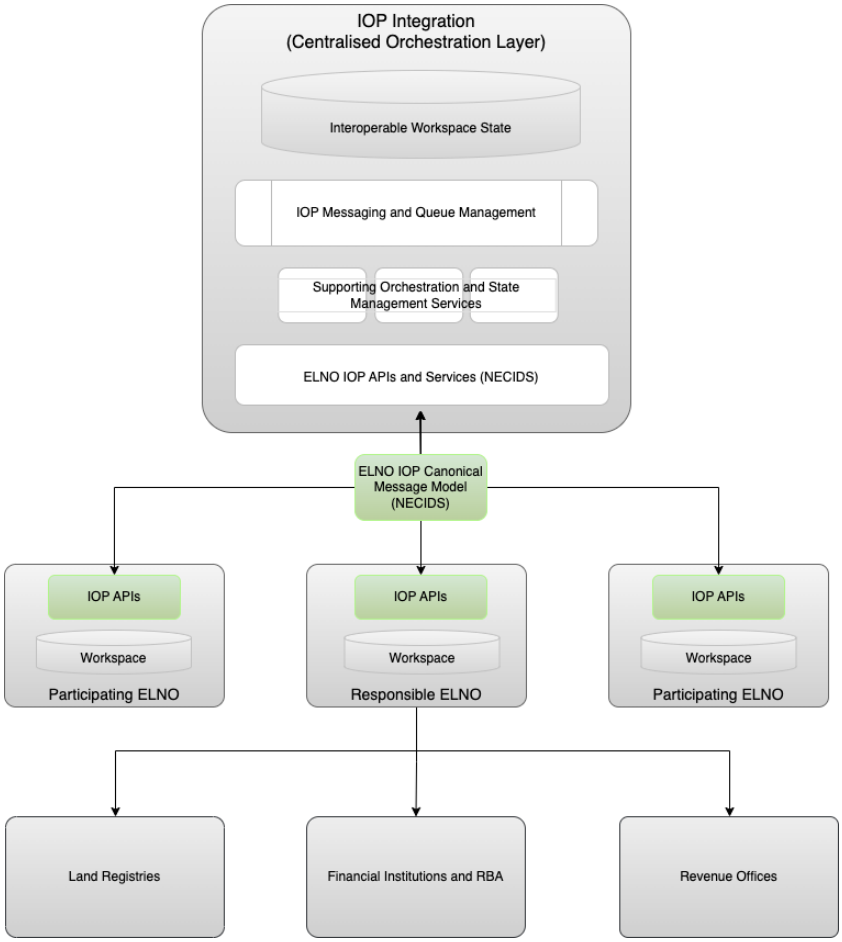

Figure 1 - Centralised Orchestration Architecture

The proposed model is a variation of Model 4 which extends the centralised architecture beyond an ESB to introduce an integration layer that is responsible for coordinating transactions across ELNOs in an IOP workspace. Key features include:

- Acts as a transaction router and synchroniser between ELNOs in an IOP workspace.
- Supports maintaining state, triggers, and milestones across ELNOs.
- Supports messaging or event driven architectures for multi-ELNO communication.
- Provides patterns for guaranteed delivery of messages, retry logic and exception handling to simplify ELNO adoption of IOP APIs and increasing resilience and redundancy.
- Supports the implementation of a Canonical Message Model (CMM), an integration construct based on the NECIDS standardised domain data definitions that simplifies multi-ELNO integration. Each ELNO implements the defined CMM and API standards,

enabling access to the IOP platform and providing immediate integration with all other participating ELNOs.

- Limited to the core functions required to support inter-ELNO interoperability, with 3rd party integrations remaining in the scope of individual ELNOs. This architecture supports RELNO switching, with any participating ELNO capable of taking on RELNO status based on workspace state and ELNO capabilities.
- Provides an architecture foundation for the design and ongoing evolution of IOP data and API standards, versioning and managing releases, and overall implementation governance.

ADVANTAGES

- Reduces integration burden on individual ELNOs, particularly as the number of integrated ELNOs increases
- Provides a model for formalised central governance.
- Simplifies the path to improved transaction resilience

DISADVANTAGES

- Requires new infrastructure to be established to support the integration layer. This necessitates a platform governance model with responsibility for owning and managing the infrastructure.
- May face resistance from ELNOs or raise competition concerns as the centralised orchestration layer standardises IOP functions.

9.6 IOP STANDARDS, DESIGN AND GOVERNANCE

OVERVIEW

Independent of the integration architecture and IOP implementation approach adopted, the IOP API and data definitions (NECIDS) require ongoing design updates, versioning and releases, implementation support, management of ELNO adoption and compliance, and overall governance of the IOP solution domain.

For example, as IOP requirements evolve and new features are added, consideration needs to be given to versioning of IOP standards, how ELNOs implement new versions and achieve compliance, the support provided for prior versions and backwards compatibility. Will all ELNO's have to operate their platforms on the same NECIDS version, and if releases fail how will rollback occur? Another consideration is the alignment of NECIDS changes with different NECDS versions across jurisdictions (particularly as linked transactions may go across State boundaries)?

This could be achieved through extending the NECIDS scope to include an ELNO Interoperability Certification Framework, managed by a central Design Authority (DA) responsible for the ongoing development of the NECIDS and supporting ELNO implementations. The DA is a logical extension to the role of the Interoperability Design Committee (IDC) but, importantly benefiting from independence from the ELNOs and other stakeholders including registry offices. It would be responsible for:

- Designing the interoperability architecture, including how ELNOs interact within a shared workspace.
- Defining technical standards, including APIs and data models (formalized in the NECIDS). This includes minimum standards for APIs, data integrity, security, and resilience.
- Managing RELNO/PELNO orchestration logic, workspace synchronization, and switching protocols.
- Ensuring compliance with the Model Operating Requirements (MOR) and Model Participation Rules (MPR) set by ARNECC.
- Facilitating independent stakeholder engagement, including with FIs, registries, and revenue offices.
- Designing the ELNO Interoperability Certification Framework, including verification protocols and testing frameworks for ELNOs to use for development and compliance testing.
- Providing ongoing NECIDS versioning and release governance in conjunction with industry stakeholders.
- Support ongoing validation and onboarding of integrating ELNOs.

Other considerations to be addressed through IOP governance post implementation include the support of practitioners operating in an interoperable environment in the event of a technical failure impacting settlement (where the cause of the failure is not easily attributable to a single ELNO), and ensuring competing ELNOs have a operating framework that encourages cooperative behaviour.

ADVANTAGES

- Ensures quality and consistency of IOP Implementations.
- Supports innovation and competition while managing risk.
- Provides an opportunity to support practitioners in an increasingly complex environment with more potential failure modes and increased complexity in isolating issues that impact on time settlements.

DISADVANTAGES

- May slow down adoption across multiple ELNOs.
- Requires strong regulatory oversight.

10 BIBLIOGRAPHY

ARNECC. (2025, November 12). *Cost-benefit Analysis - Terms of Reference.* Retrieved from Australian Registries National Electronic Conveyancing Council: https://www.arnecc.gov.au/wp-content/uploads/2025/07/Cost-Benefit-Analysis-Terms-of-Reference.pdf

Sweeney, W. (2025). ELN Responsible Subscriber Matrix. Brisbane, Queensland, Australia: ARNECC.

Sweeney, W. (2025). ELN Roles Matrix. Brisbane, Queensland, Australia.

Sweeney, W. (2025). ELNO Interoperability Functional Requirements. Brisbane, Queensland, Australia: ARNECC.

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