

ThaiPropertyX

Platform Architecture

How the TPX property exchange connects agencies, websites and shared listings



Client Overview

A clear explanation of the TPX platform, connectors, property syndication, security and media architecture.

ThaiPropertyX Platform Architecture

ThaiPropertyX (TPX) is a central property syndication and exchange platform that allows participating real-estate agencies to share selected listings securely while continuing to operate their own websites, branding, client relationships and business processes.

The central principle: TPX is the secure exchange hub. Agency websites connect to that hub through dedicated TPX connectors, allowing properties to move between different website systems through one common TPX property standard.

1. The role of the TPX platform

TPX sits between participating estate agencies and provides the controlled infrastructure for property sharing. An agency chooses which properties it wants to make available to the network. Other authorised agencies can discover those properties, review the sharing terms and select suitable listings for publication on their own websites.

The source agency remains identifiable as the owner/source of the listing. TPX records the property, source agency, receiving agency, syndication status and the commercial terms associated with the sharing relationship.

TPX is therefore not a replacement for an agency website. It is the infrastructure that allows otherwise independent websites and agencies to cooperate.

2. Why TPX uses a central Laravel platform

The TPX platform runs as a dedicated Laravel web application. Laravel provides the secure and structured server-side foundation for agency accounts, users, property records, permissions, API connections, syndication relationships, media records and administration.

A central platform is significantly more manageable than allowing agency websites to communicate directly with one another. Every participating website connects to TPX through a controlled interface. When another website platform is supported, it only needs to understand the TPX standard; it does not require a separate integration with every other agency on the network.

This hub-based architecture provides a consistent source of truth for the network and allows TPX to enforce permissions, ownership, sharing rules and property identity centrally.

3. The hub-and-connector architecture

The system can be viewed as a hub with many spokes. TPX is the hub and each connected agency website is a spoke. The TPX API provides the secure communication layer, while the connector installed for each website translates that website's property structure into the standard TPX format.

This separation means an agency can retain its existing website while gaining access to the TPX network.

4. How the TPX Connector works

The TPX Connector is the bridge between an agency website and the central TPX platform. It understands how the website stores its property information and maps that information to TPX's standard property structure.

Different websites may use different names or internal formats for the same information. One system may call a field "Property ID", another "Reference", and another may store it under a different internal field name. The connector translates these differences so TPX receives a consistent record for price, bedrooms, bathrooms, property type, status, location, features, photographs and other listing information.

The connector also handles communication in the opposite direction. When an agency receives a syndicated property, the connector translates the standard TPX property into the format required by that agency's website.

5. WordPress theme independence

TPX is designed to connect with different WordPress real-estate themes and property plugins. The central TPX property model is independent of any individual WordPress theme.

Each supported theme has a mapping layer that understands its own fields and converts them to and from the common TPX property format. This means an agency using one WordPress property theme can share a property with an agency using a different supported theme.

This approach avoids creating individual theme-to-theme integrations. Instead of building separate connections between every possible pair of themes, each theme connects once to TPX. The result is a much more scalable integration model.

6. The property syndication process

A source agency maintains its property on its own website. The connector synchronises the relevant property information with TPX, where it becomes associated with that source agency.

The agency decides whether the property remains private or is made available to the TPX Property Network. When available, authorised agencies can review the property and the applicable cooperating commission terms.

When a receiving agency chooses the property, TPX creates a syndication relationship recording the source agency, receiving agency, property, status and sharing terms. The receiving website's connector then creates the appropriate local listing and imports the property information and media required by that website.

Subsequent changes to the source property can be synchronised according to TPX rules while the original source ownership remains unchanged.

7. Agency control and commission terms

TPX does not require every property to be shared. The source agency controls which listings enter the network, and the receiving agency controls which available properties it chooses to publish.

Commercial sharing terms are recorded as part of the syndication relationship. TPX can retain a snapshot of the agreed commission arrangement so that an existing syndication continues to reflect the terms under which it was created even if an agency later changes its standard terms.

8. Security and agency separation

TPX is a multi-agency system. Each agency operates within its own controlled account area, and users are assigned roles that determine the functions they can access.

Website connectors authenticate using dedicated API credentials associated with the relevant agency. A connector therefore does not rely on a staff member's normal website password or TPX administrator login. Credentials can be revoked when access should be terminated and obsolete connections can be removed.

Server-side permission checks ensure that actions are performed in the context of the correct agency. Source and receiving agencies have different responsibilities: the source controls the original property and its network availability, while the receiving agency controls its own received publication within the permissions provided by TPX.

Production communication uses encrypted HTTPS connections. Authentication, API validation, agency isolation, role-based permissions, credential management, request controls and system logging operate together as layers of protection.

9. Property identity and duplicate prevention

Every synchronised property needs a reliable identity. TPX records the relationship between the agency, the source system and the source property's reference so that a later synchronisation can identify the same property.

This allows normal updates to modify an existing TPX record instead of creating a duplicate property each time the connector communicates with the platform.

A receiving website has its own local website record for the syndicated listing, while TPX continues to know exactly which original network property that local copy represents.

10. How property images are stored

TPX uses dedicated object storage for the authoritative syndication copy of property photographs. The physical image files are stored in Cloudflare R2, while the TPX Laravel platform maintains the media records that identify each image and associate it with the correct agency and property.

An image can therefore be organised under a logical structure such as `media.thaipropertyx.com/agencies/4/properties/123/image.jpg`. This makes ownership, storage measurement, media management and cleanup predictable as the network grows.

Cloudflare R2 uses an industry-standard S3-compatible storage interface. TPX accesses the storage through Laravel's filesystem layer, keeping the application logic separate from the physical storage service.

11. Image delivery through Cloudflare

Property websites are image-intensive, so TPX separates application processing from bulk media delivery. Cloudflare's Content Delivery Network (CDN) can cache and deliver property photographs efficiently without requiring the Laravel application server to process every public image request.

This allows the Laravel platform to concentrate on its primary responsibilities - authentication, property data, permissions, APIs and syndication - while Cloudflare handles high-volume image delivery.

12. Why receiving websites keep their own image copies

When a syndicated property is added to a receiving WordPress website, the TPX Connector imports the appropriate photographs into that site's own WordPress Media Library.

This gives the receiving website normal WordPress attachment records, locally generated theme thumbnails, compatibility with image optimisation tools and normal media-management behaviour. The public website can then serve its publishing copies through its own website infrastructure.

The division of responsibility is clear: TPX and R2 maintain the authoritative syndication media, while each receiving WordPress website maintains the publishing copy required for its own listing.

13. Image optimisation and variants

TPX manages property media so that a website does not need to use an unnecessarily large original photograph for every purpose. Appropriate image variants can be maintained for uses such as thumbnails, property cards and full gallery views.

Modern image formats such as WebP can be used where appropriate to reduce file size while maintaining visual quality. This improves page performance and reduces unnecessary data transfer.

14. Resource usage and storage accounting

Because every TPX media object is associated with an agency and property, the platform can calculate resource usage accurately. This can include property counts, image counts, generated media variants, total storage, active

connectors and active syndications.

Media records can include file size, dimensions, format, storage key, variant and timestamps. Recording this information when the media is created allows TPX to calculate usage quickly without repeatedly scanning the entire storage system.

This architecture also supports subscription or usage-based plans, including historical usage records for defined billing periods.

15. Synchronisation and reliability

TPX manages the continuing relationship between a source property and its syndicated copies. The system is designed to handle property updates and status changes such as active, paused, withdrawn, sold or reactivated listings in a controlled way.

Synchronisation uses validation and property identity checks so repeated requests can update the correct records rather than creating uncontrolled duplicates. Synchronisation timestamps and diagnostic information provide administrators with visibility into the most recent communication between a website and TPX.

Where a transfer is interrupted or rejected, the architecture allows the operation to be identified and retried without compromising the underlying property ownership or syndication relationship.

16. Why this architecture is well suited to a property exchange

The TPX architecture allows agencies to remain independent while participating in a shared property network. Agencies keep their own websites, domains, branding and customer relationships, while TPX provides the common infrastructure required for controlled cooperation.

The central property model prevents the network from becoming dependent on one website theme. The connector architecture allows additional WordPress themes and property systems to join the same exchange without redesigning the TPX platform.

Dedicated object storage and CDN delivery separate large media workloads from the application server. Central API authentication and agency permissions provide a consistent security model. Syndication records provide a clear history of which agency supplied a property and which agency received it.

Together, these components provide a platform that can support a small number of agencies or expand to a substantially larger network without changing the fundamental architecture.

17. Beyond WordPress

The TPX connector architecture is not inherently limited to WordPress. The central platform communicates through a controlled API and a standard property model.

This means integrations can be developed for other content-management systems, custom estate-agency websites, mobile applications or property-management platforms. Any compatible system can participate once an authorised connector maps its property structure to the TPX standard.

18. What an agency experiences

For agency users, the underlying architecture remains largely invisible. Their practical workflow is straightforward: maintain the agency profile and team, connect the website, establish sharing terms, choose which properties are available to the network, browse properties offered by other agencies and select suitable properties for their own website.

TPX handles the infrastructure behind that workflow: authentication, property identity, theme translation, permissions, syndication records, commission terms, media references and communication between independent websites.

19. Summary

ThaiPropertyX is a central property-exchange infrastructure that connects independent estate agencies without requiring them to abandon their existing websites or operating methods.

Laravel provides the secure application platform; the TPX API provides the controlled communication layer; TPX Connectors translate between individual website systems and the common TPX property standard; Cloudflare R2 provides authoritative media storage; and Cloudflare's delivery infrastructure provides an efficient route for distributing property images.

The result is a platform in which different supported website systems can exchange property listings through one secure, consistent network while preserving source ownership, agency control, commercial terms and normal website publishing behaviour.

Platform components at a glance

Agency Website	The agency's public property website and normal publishing environment.
TPX Connector	Maps the website's property structure to and from the TPX standard.
TPX API	The authenticated communication gateway between websites and the platform.
TPX Laravel Platform	Manages agencies, users, properties, permissions, syndication and administration.
TPX Database	Stores authoritative property, agency, media metadata and syndication records.
Cloudflare R2 / CDN	Stores authoritative property media and provides scalable image delivery.