DOI Resolver & Open Access Discovery

New DSP Addons for ILLiad

Atlas Systems | Access Services Product Team

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What Is the Decision Support Pipeline?

DSP Overview

The Decision Support Pipeline (DSP) is a server-side automation framework in ILLiad that processes borrowing requests through configurable stages.

DSP uses server addons to gather information, check availability, and automate fulfillment decisions - reducing manual staff work.

Each addon plugs into one or more pipeline stages and can run automatically or route requests for staff review via business rules.

Available since ILLiad 9.1 (December 2019) for borrowing and document delivery workflows.

Server Addons

Installed via Customization Manager; available from the ILLiad Addon Directory

Business Rules

Automatic or Recommended actions; filter by matchstring per pipeline

Configurable

Staff review or fully automated processing; control which pipelines each addon uses

3 Stages, 3 Pipelines

Stage 1

Retrieve Information

Citation and request data gathering (e.g., DOI resolution)

Stage 2

Gather Fulfillment Data

Check availability and cost for fulfillment options

Stage 3

Automate Fulfillment

Place request or route for staff review based on business rules

3 Borrowing Pipelines

Pipeline	Stage 1	Stage 2	Stage 3
Borrowing Article Pre-Copyright	DOI Resolver	Open Access	Business Rules
Borrowing Article	DOI Resolver	Open Access	Business Rules
Borrowing Loan	DOI Resolver	-	Business Rules

DOI/PMID Resolver Addon

DSP Stage 1 | Updated

Original DOI Addon (v9.1)

Resolves DOIs only (no PMID support)

Auto-populates citation fields from CrossRef API

Normalizes DOI values (strips spaces, fixes URLs, converts dx.doi.org)

Runs in Pre-Copyright and Article pipelines

Settings: OverwriteTransactionFields, SetDocumentType

Overwrites patron-entered data with authoritative metadata

What's New

PMID resolution via PubMed API

Resolves both DOIs (CrossRef) and PMIDs (PubMed) in a single addon

Brings proven community solution into official product with Atlas support

Replaces 10+ unsupported community implementations (OSU, NYU, MIT, CU Boulder, Millikin, UMD, UNMC, UMN)

Originally developed by Austin Smith (now at Atlas) at University of Maryland

36 UserVoice votes | 10+ community implementations | Deployed in multiple Concierge web projects

DOI/PMID Resolver - How It Works

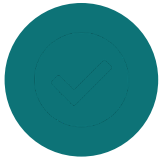
Server-Side (DSP Addon)

1. Request Enters Pipeline

Borrowing request with DOI or PMID is routed to Awaiting Pre-copyright Pipeline or Awaiting Request Pipeline.

2. Addon Resolves Identifier

Calls CrossRef API (DOIs) or PubMed API (PMIDs). Normalizes values, validates identifiers, retrieves full citation.



3. Fields Auto-Populate

Journal title, article title, author, volume, issue, pages, year, ISSN, and publisher mapped into transaction fields.

DOI Normalization

Replaces http with https, strips spaces, converts dx.doi.org to doi.org, removes leading periods, adds https://doi.org/ prefix when missing.

DOI Resolver in Web Pages

Patron-Facing

DOI & PubMed ID Lookup

Patrons enter a DOI or PubMed ID to auto-populate citation details in the article request form, reducing manual entry errors.

Open Access Detection

If freely available via Open Access, patrons see a direct link and can download immediately without submitting an ILL request.

Citation Confirmation

Retrieved citation details are shown for patron verification before form submission. "Yes, this is correct - Fill Form" proceeds with accurate data.

How is this different from the DSP addon?

The server-side DSP addon resolves identifiers automatically after a request is submitted. The web page option lets patrons look up and verify citations before submitting, and even access OA content directly - potentially eliminating the ILL request entirely.

Unpaywall Open Access Addon

DSP Stages 2 & 3 | Updated

Original: Open Access Button

Open Access Button & InstantILL have been sunset.

The OAB DSP Addon no longer has a functional API. Sites using it have lost open access discovery.

OA.Works recommends Unpaywall as the primary replacement.

New: Unpaywall API

- Free API - 100,000 calls/day
- 50,000+ publishers & repositories indexed
- Returns OA status, version, license, direct URL
- Maintained by OurResearch (stable, trusted)
- Auth: email address only (no key required)

Same Workflow, Better API

Preserves the same DSP workflow patterns from the original OAB addon. Checks DOI against Unpaywall, stores result in Fulfillment Data and Location field, supports DeliveryEmailTemplate for patron notification, and routes to DeliveredQueue for statistics tracking. Configuration in Customization Manager > Server Addons remains familiar.

Unpaywall Addon - How It Works

With Staff Review

1. Request enters pipeline with a DOI
2. Addon queries Unpaywall API
3. OA URL stored in Fulfillment Data and Location field
4. Business rule set to "Recommended"
5. Request routes to Pipeline Request Review
6. Staff reviews and chooses:
   - Select Recommended Action
   - Select Alternate Action

Fully Automatic

Business rule set to "Automatic" with target = Unpaywall Addon.

1. Request enters pipeline with a DOI
2. Addon queries Unpaywall, finds OA link
3. Sends delivery email to patron with OA URL
4. Routes to DeliveredQueue (e.g. "Filled via Open Access")

Zero-click processing. No staff intervention required.

API: api.unpaywall.org/v2/{doi}?email={email} | Free | 100k calls/day | Statistics via DeliveredQueue + routing rule

Combined DSP Workflow

Request Submitted

Patron enters DOI/PMID

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Stage 1: Resolve

DOI Resolver fills citation

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Stage 2: OA Check

Unpaywall finds free text

→

Stage 3: Fulfill

Business rules decide action

Outcome Paths

OA Found (Automatic)

Patron emailed OA link. Request routes to DeliveredQueue. Marked finished. Cost avoided.

OA Found (Staff Review)

Staff sees OA in Pipeline Request Review. Selects recommended action or chooses alternate.

No OA Available

Request continues to OCLC/ILL with fully populated citation fields from the DOI resolver.

Key Benefits & Next Steps

- Eliminates manual metadata entry - authoritative citations from CrossRef & PubMed
- PMID support - critical for medical and health science libraries
- Cost avoidance - identify free OA versions before paying ILL/supplier fees
- Officially supported - replaces 10+ unsupported community implementations
- Free APIs - CrossRef, PubMed, Unpaywall require no subscription
- Zero-click fulfillment - automatic OA delivery with patron email notification
- Statistics tracking - DeliveredQueue enables OA fill rate reporting
- Future: LibKey integration option for Third Iron subscribers

Next Steps

DOI/PMID Resolver

Target: v10.1 release

Beta with 3-5 volunteer sites

Unpaywall Addon

Andrew investigating migration

OAB addon deprecation notice

90-day customer migration window

Combined

Both addons work together in the same DSP pipeline for maximum automation

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