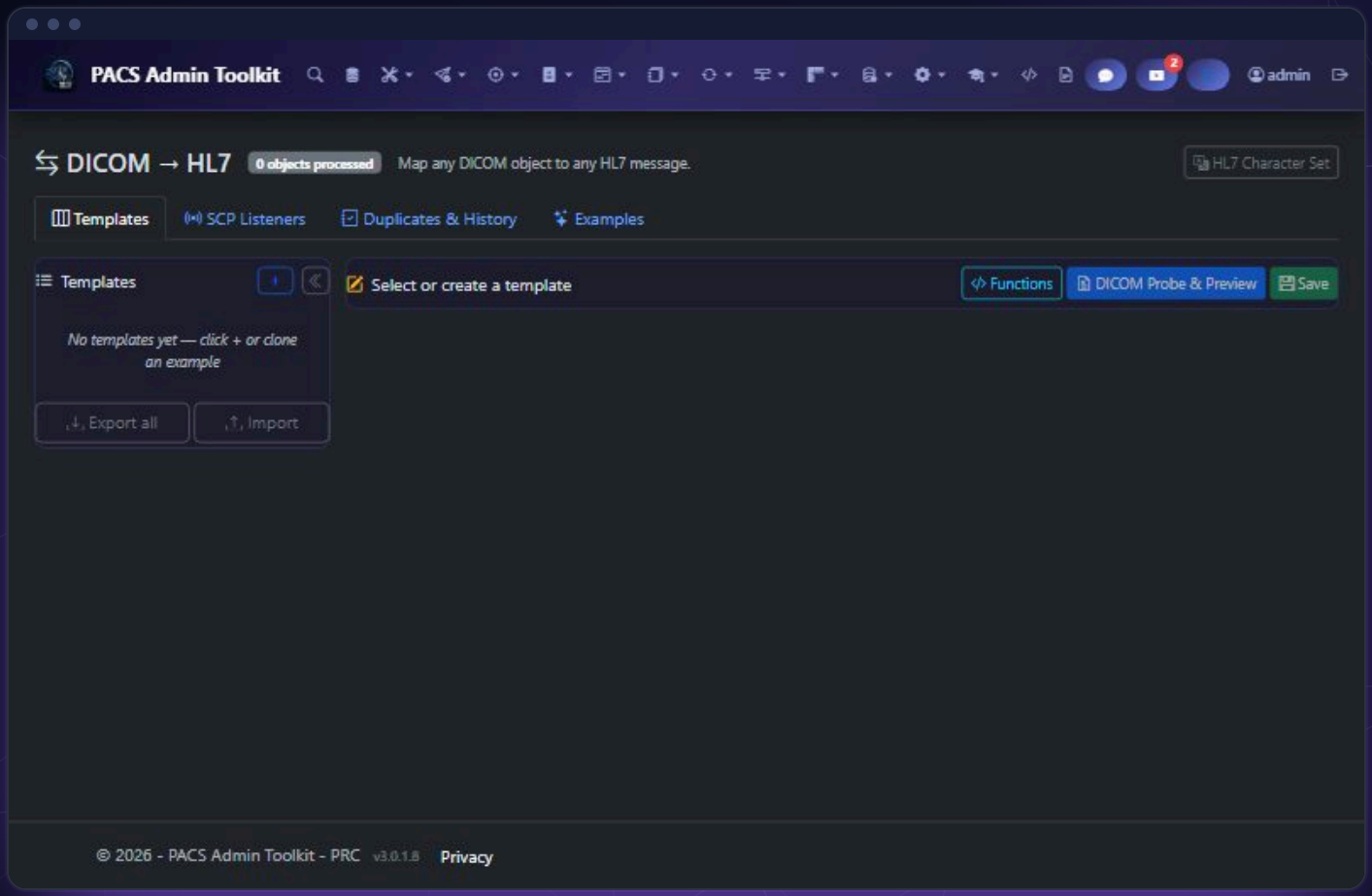
Reports & Results | ✦ Leads with Transform

DICOM to HL7

Images and reports arriving as DICOM become the HL7 messages your RIS and EHR expect.



A DICOM listener that turns received objects into HL7 messages: report text to ORU, temporary orders for walk-in studies, or any message your systems need. Templates, filters and duplicate holds decide what is sent, and every study can be reprocessed or edited and resent.

1
message per study by default, later images held as duplicates

Any
DICOM tag, SR item or report text to any HL7 field

Per destination
its own mappings, queue item and retries

Replaces: **Custom interface scripts or engine channels that parse DICOM**

License module `DICOM_TO_HL7`

THE CHALLENGE

Why it matters

Some of the most useful information in radiology only exists as DICOM: a reporting system that stores its reports as SR, a walk-in study that reached the PACS before the RIS had an order, a modality that knows a study is complete. The RIS and EHR only understand HL7.

Bridging the two usually means a custom script or an interface engine channel that someone built years ago and nobody wants to touch. When a message is wrong or missing, there is no record of which study produced it or why.

> IN SHORT
>
> A DICOM listener that turns received objects into HL7 messages: report text to ORU, temporary orders for walk-in studies, or any message your systems need. Templates, filters and duplicate holds decide what is sent, and every study can be reprocessed or edited and resent.

CAPABILITIES

What it does

- **A DICOM listener for HL7**
  Modalities, the PACS or a router send objects to an AE title and port; the sender gets its C-STORE success as soon as the object is handled.
- **Templates with filter rules**
  Each template sets the message type, event and version and its destinations; filter rules (modality, SOP class, any tag) decide which objects it applies to, first match wins.
- **Map anything**
  Source a field from a DICOM tag, a sequence path, an SR content item, the report body, a static value or a dynamic value, with transforms; MSH and PID / OBR / PV1 can fill themselves.
- **Report text as OBX lines**
  Repeating segments put report text one line per OBX, with headings such as FINDINGS and IMPRESSION, and hard-wrapped text can be joined back into paragraphs.
- **One message per study**
  Duplicate detection (default Study Instance UID for 180 days, or accession, or per image) and study sampling keep later images from creating more messages.
- **Different fields per receiver**
  With two or more destinations, a destination can have its own profile of mappings and gets its own queue item.
- **Preview before you send**
  DICOM Probe and Preview builds the message from a sample, an uploaded file or a local study; listeners can store messages without queueing them for a dry run.
- **Fix and resend**
  Duplicates and History shows every study; Reprocess, Edit and send (change a value or hand-edit the HL7) or clear a duplicate hold from there.

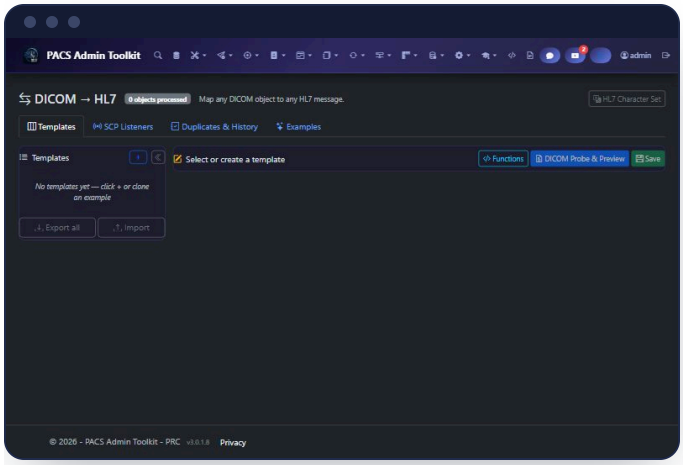
WORKFLOW

How it works

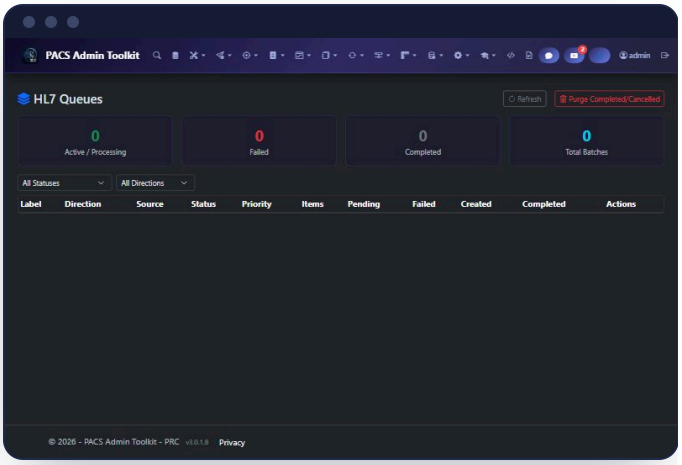
1. **Object arrives**
   A modality or PACS sends a DICOM object to a DICOM to HL7 listener.
2. **Sampled and matched**
   Optional study sampling keeps the best instance; the first template whose filters pass is chosen.
3. **Duplicate check**
   A study already processed within the window is held, not sent again.
4. **Message built**
   Field mappings and transforms build one message per destination.
5. **Queued and delivered**
   The HL7 queue sends each message over MLLP and checks the ACK.

IN THE PRODUCT

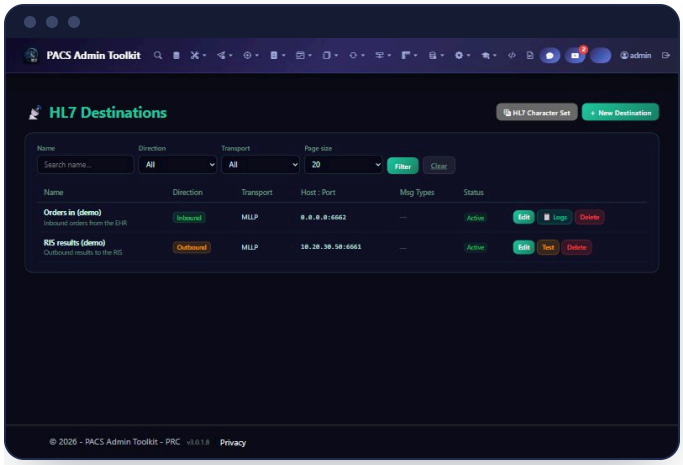
See it in action



Templates, SCP listeners, duplicates and history in one page



Generated messages are delivered through the HL7 queue with retries



Each receiver's MSH settings fill the message header

USE CASES

Where it pays off

Reporting system that stores reports as SR

CHALLENGE	A reporting system writes its final reports into the PACS as DICOM SR; the RIS needs them as ORU^R01 and staff copy text across by hand.
WITH PATK	A template filtered to modality SR builds ORU^R01 with one OBX per report line and FINDINGS and IMPRESSION headings, sent to the RIS with retries.
OUTCOME	**Reports reach the RIS without copy and paste, and each one can be traced back to the study that produced it.**

Imaging centre with walk-in patients

CHALLENGE	Walk-in studies reach the PACS before the RIS has an order, so they sit unmatched until someone creates one.
WITH PATK	A template builds ORM^O01 from the study, once per accession thanks to a 30-day duplicate hold on accession number and study sampling that prefers a real acquisition over secondary captures.
OUTCOME	**A temporary order exists as soon as the images do, and the manual order-creation queue shrinks to the exceptions.**

One study, RIS and billing

CHALLENGE	The RIS wants the accession in OBR-3; the billing system wants it in ORC-2 with a different MSH-5.
WITH PATK	Both destinations are picked on one template; the billing destination gets its own mapping profile and its MSH-5 comes from its own settings.
OUTCOME	**One feed, two correctly shaped messages, and a billing outage never delays the RIS.**

3T

Trust · Truth · Transform

Trust

Listeners accept only the SOP classes you allow; duplicate holds stop repeat messages; the raw DICOM is kept so any study can be rebuilt and resent.

Truth

Every study shows whether it was sent, held as a duplicate, unmatched or in error, with the message built and the live listener log.

Transform

Order creation and report copying become automatic, and a template change replaces a script rewrite.

VALUE MODEL

What it can be worth

An example multi-site imaging group producing HL7 from DICOM for reports and walk-in orders.

Walk-in or unordered studies per year needing an order created by hand	8,000
Staff time saved per order	3 minutes
Reports stored as SR that are copied into the RIS by hand today	12,000
Staff time saved per report	2 minutes
Blended staff cost per hour	$45
Avoided custom interface build, spread over 3 years	$5,000 per year

$41,000

Estimated yearly value

Illustrative example. Your volumes, staffing and costs will differ; we will build this model with your own numbers.

DIFFERENTIATORS

Why it stands out

- **Made for DICOM**
  It reads SR content items, sequences and report text natively, which a general interface engine needs custom code for.
- **Traceable by study**
  Each message links to the study, template and destination that produced it; scripts rarely keep that record.
- **Safe to change**
  Probe and Preview and dry-run listeners show the message before anything is queued.
- **Same platform**
  Delivery uses the HL7 Messaging queue and destinations, with one login and one audit trail.

SPECIFICATIONS

At a glance

Standards	DICOM C-STORE and C-ECHO in; HL7 v2 over MLLP out, with ACK checking
Sources	DICOM tags, sequence paths, SR content items, report body, static and dynamic values
Controls	Filter rules, template order, duplicate key and window, study sampling, accepted SOP classes
Tools	DICOM Probe and Preview, example templates, Edit and send, Reprocess, template import / export
Housekeeping	History-row retention, raw DICOM retention with a disk high-water mark, keep one image per study

See DICOM to HL7 with your own data

Ask for a guided demo or a trial license. PACS Admin Toolkit installs on your own Windows server in under an hour, and every module comes with step-by-step guides and in-app guided tours.

sales@3tconsults.com | support@3tconsults.com | +1 (612) 564-9194 | www.3tconsults.com

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