

DMCC

DICOM Migration Control Center

Technical & User Guide

Version 1.0.0

Installation, configuration, migration operation, licensing, reporting, troubleshooting and technical administration

DOCUMENT STATUS Release-quality DMCC v1.0.0 documentation. Screenshots and workflows in this guide reflect the commercial 1.0.0 product family. Installer package filenames are intentionally omitted because filenames may change with maintenance releases and hotfixes.

Item	Value
Product	DMCC - DICOM Migration Control Center
Guide version	1.0.0
Target software	DMCC 1.0.0 commercial release family
Prepared	01 October 2026
Audience	PACS administrators, DICOM migration operators, deployment engineers and support personnel
Publisher	Globalcare

Document Control

This manual combines end-user operating instructions with administrator and technical reference material so that one controlled document can be maintained across deployment, migration and handover.

Revision	Date	Status	Summary
0.9	2026-09-09	Draft	First consolidated guide with supplied GUI screenshots, Trial/Installed comparison, licensing, troubleshooting, FAQ and technical reference.
1.0.0	2026-10-01	Release	Integrated installer, Start Menu, Trial-limit, license activation, Failed-study, Reports Center, service, diagnostics and uninstall screenshots; removed pre-publication placeholders and release-candidate wording.

How to Use This Guide

- Operators should read Chapters 1-18, 26 and 28.
- Administrators should also read Chapters 19-25 and 27.
- Use the Operator Cheat Sheet for day-to-day migration steps after training.
- Use the License Activation Quick Guide when activating an Installed Edition.

SCREENSHOT NOTE Screenshots are representative of the DMCC 1.0.0 commercial product family. Minor visual differences may occur after maintenance releases or patches. Use control names and workflow descriptions in this guide rather than relying on a specific installer filename. Patient identifiers are masked in documentation examples where appropriate.

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Introduction and Getting Started

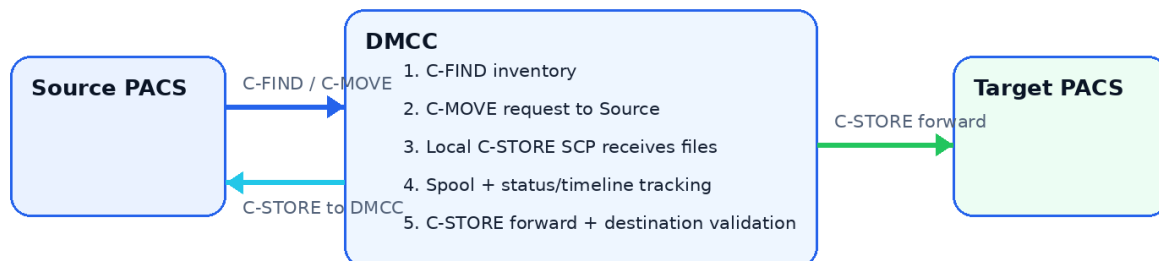
1. About DMCC

DMCC (DICOM Migration Control Center) is a Windows application designed to control and document DICOM/PACS study migration. It combines source inventory, migration job planning, controlled transfer, retry/skip handling, destination validation, reporting and licensing in one operational console.

- Query a source PACS using study-level C-FIND.
- Build migration jobs from the source inventory rather than from ad-hoc file lists.
- Request study retrieval by C-MOVE.
- Receive DICOM objects through the DMCC local C-STORE SCP in controlled mode.
- Forward spooled objects to the configured target PACS using C-STORE.
- Track per-study status and timeline events.
- Retry failed or partial work, intentionally skip approved exceptions, and preserve evidence.
- Generate migration reports, acceptance outputs and evidence bundles.

What DMCC is not DMCC is not a PACS or long-term image archive. Its role is migration orchestration, temporary spooling, monitoring, exception handling, validation and evidence generation.

DMCC Controlled Migration Data Flow



Controlled mode uses the DMCC local AE as the C-MOVE destination, then forwards spooled DICOM objects to the configured target.

Figure 1-1. Simplified DMCC controlled migration architecture.

2. Editions and Package Selection

DMCC is commercially separated into a Portable Trial package and an Installed/Licensed package. The package choice affects licensing, worker hosting and suitability for unattended production migration.

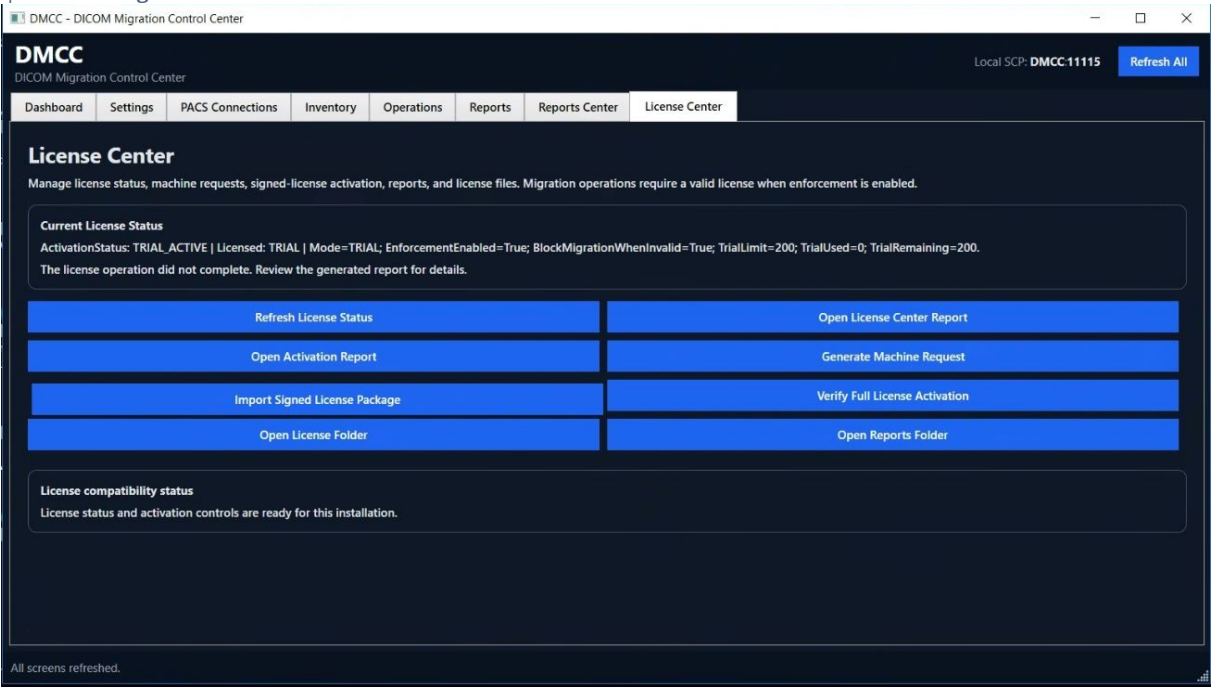


Figure 2-1. Portable Trial License Center at initial state: TrialLimit=200, TrialUsed=0, TrialRemaining=200.

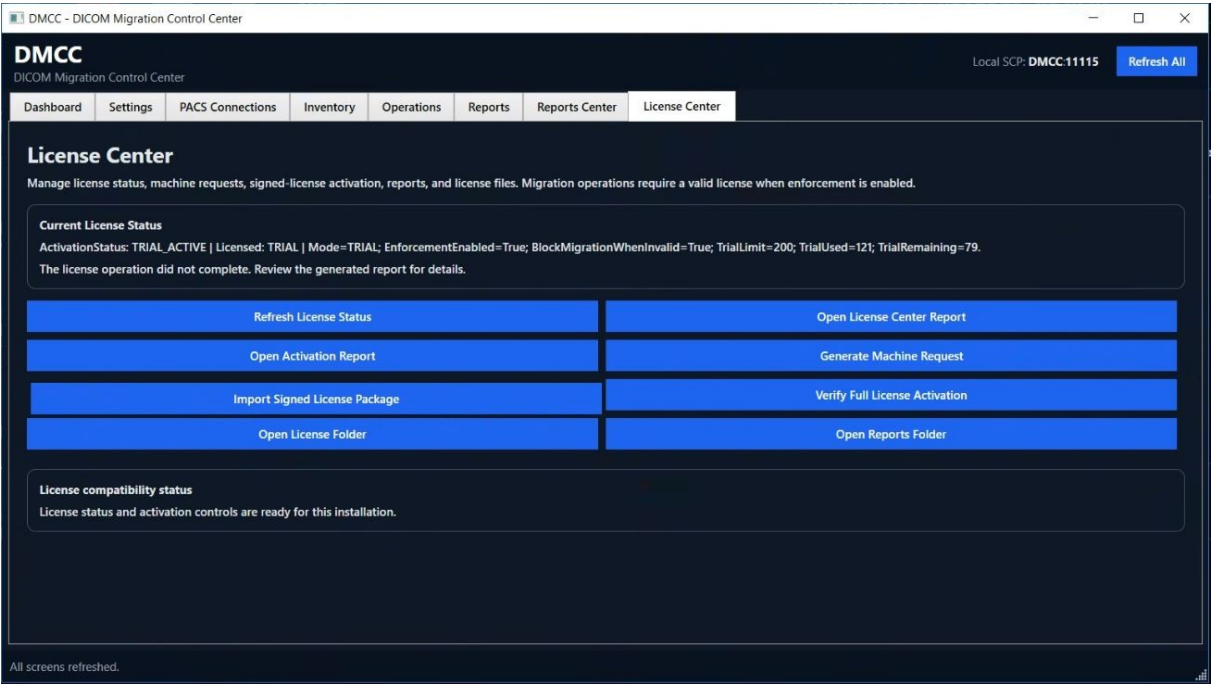


Figure 2-2. Trial allowance after use: TrialUsed=121 and TrialRemaining=79 in this example.

DMCC Trial Limit



Trial limit exceeded. Requested 376 studies from the full filtered inventory, but only 79 trial studies remain. Trial limit is 200; currently used 121. No migration job was created. Narrow the Inventory filters or import a valid full commercial license.

OK

Figure 2-3. Trial-limit enforcement. If the requested Draft job exceeds the remaining allowance, no migration job is created.

Capability	Portable Trial	Installed / Licensed
Primary purpose	Evaluation, pilot and limited migration testing	Production and long-running commercial migration
Deployment	Extract portable package; no permanent Windows installation required	Windows installer deploys application and worker service
Major GUI functions	Dashboard, PACS, Inventory, Operations, Reports and related controls	Same operational feature set plus production service deployment and full licensing
Study allowance	Up to 200 unique studies. If a requested Draft job would exceed the remaining allowance, the entire job request is rejected; no partial job is created.	No Trial study cap; governed by the issued commercial license.
Worker hosting	Portable worker process where supplied; operator-controlled	DMCCWorker Windows service
Automatic worker startup	No permanent service startup	Yes - service Start Mode is Automatic
DICOM listener	Available while portable worker is running	Provided by DMCCWorker service; default TCP 11115
Firewall provisioning	May require manual/site configuration	Commercial installer creates inbound TCP 11115 rule
Start Menu entry	Package-specific / not installed permanently.	Globalcare > DICOM Migration Control Center.
License model	Trial-only package	Valid full license required for production migration
Unattended production use	Not recommended	Designed for this use

TRIAL BOUNDARY Portable Trial permits a maximum of 200 unique Study Instance UIDs. License Center shows TrialLimit, TrialUsed and TrialRemaining. If a Draft job request is larger than the remaining allowance, DMCC rejects the whole job request and creates no migration job. Narrow the inventory filter to a batch within the remaining allowance, or use the Installed/Licensed edition for production migration.

Do not mix worker models Do not start a portable worker on a machine where the Installed Edition DMCCWorker service is already running on the same AE/port. Two listeners competing for TCP 11115 will cause startup or routing failures.

3. System, Network and PACS Requirements

3.1 Recommended platform

- Windows 10 or Windows 11, or Windows Server 2019/2022.
- Dedicated workstation or virtual machine for sustained migration workloads.
- Stable network paths to both source and destination PACS.
- Sufficient local storage for the SQLite database, temporary spool, logs, reports and evidence bundles.
- Administrator rights for installation/service/firewall operations.
- Time synchronization on the DMCC host and PACS systems to simplify log correlation.

3.2 PACS information to collect before configuration

System	Required information
DMCC local node	AE Title, host/IP used by PACS systems, local C-STORE SCP port
Source PACS	Name, AE Title, host/IP, DICOM port, query/retrieve permission
Target PACS	Name, AE Title, host/IP, DICOM port, storage permission
Network	Firewall path in both directions required by the chosen DICOM workflow
Optional	Storage Commitment support and site acceptance rules

3.3 Source PACS routing requirement

In controlled mode the source PACS must know how to send C-MOVE results to the DMCC local AE. Register the DMCC AE Title, DMCC host/IP and local DICOM listener port on the source PACS. A successful C-ECHO to the source alone does not prove that the source can route C-MOVE results back to DMCC.

4. Installing and Starting DMCC

4.1 Portable Trial

1. Extract the Portable Trial ZIP to a writable local folder.
2. Review the README included with the package.
3. Start the portable worker using the package launcher where provided.
4. Start the DMCC GUI.
5. Open License Center and confirm Trial status/allowance.
6. Configure PACS connections and run C-ECHO before creating inventory.

Portable execution Portable packaging has used separate GUI and worker launchers during qualification. Follow the launchers included in the actual release ZIP rather than copying service commands from the Installed Edition.

4.2 Installed / Licensed Edition

1. Run the DMCC Installed Edition installer as an administrator. The installer filename may vary by release or hotfix; use the package supplied for the deployment.

Package naming: this guide intentionally does not show a fixed MSI filename. The filename may change for future software releases or hotfixes without changing the installation workflow.

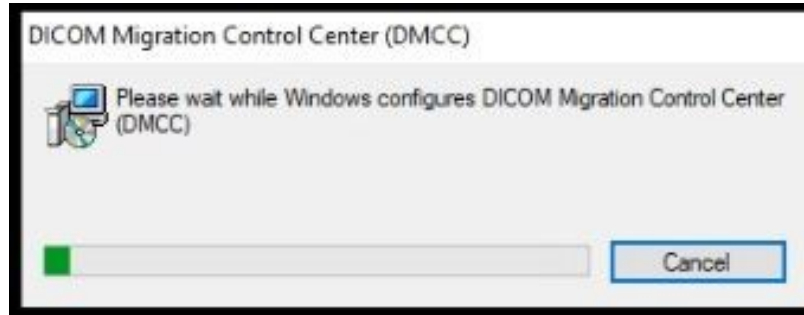


Figure 4-1. Installed Edition Windows Installer configuration/progress window.

2. Allow Windows Installer to configure DMCC. A progress window is shown while installation runs. When installation is complete, the installer exits automatically; no separate completion/Finish page is displayed.
3. After installation, open Start > Globalcare > DICOM Migration Control Center.

Installation completion: the installer closes automatically. There is no separate completion screen. If the Start Menu shortcut is present and DMCCWorker is Running, the installed components are available for first-launch validation.

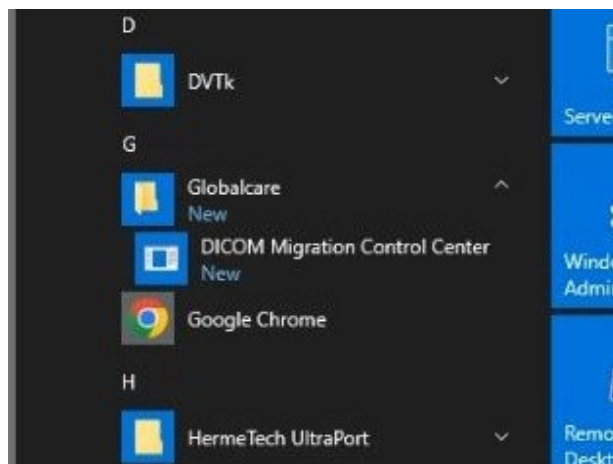


Figure 4-2. Windows Start Menu shortcut under Globalcare.

4. Open License Center. If the status is LICENSE_ACTIVATION_REQUIRED, complete the machine-request and signed-package workflow before production migration.
5. Verify DMCCWorker is Running and the local DICOM port is listening.

INSTALLER BEHAVIOR The Installed Edition uses Windows Installer. A progress/configuration window is displayed while installation runs. When installation completes successfully, the installer exits automatically; there is no separate Finish or completion page. Confirm installation using the Start Menu shortcut and DMCCWorker service.

4.3 First-launch validation

- Dashboard opens without error.
- Settings shows the intended local AE and port.
- PACS Connections accepts source and destination nodes.
- C-ECHO succeeds to each reachable PACS.
- Installed Edition: DMCCWorker service is Running.
- Installed Edition: License Center reports a valid activation before migration is started.

PART II

DMCC User Guide

5. Understanding the DMCC Interface

The main navigation bar contains the operational modules used throughout a migration. The Refresh All button is available at the top-right of the application to refresh the visible application state.

Tab	Purpose
Dashboard	High-level counts and migration health.
Settings	Local DICOM node, worker behavior and runtime folder configuration.
PACS Connections	Create, edit and test source/target PACS nodes.
Inventory	Query source PACS by C-FIND and create Draft migration jobs.
Operations	Start/pause/resume jobs, monitor study status, retry/skip exceptions and review timelines.
Reports	Export migration summary, failed/partial and timeline CSV output.
Reports Center	Run numbered reporting/acceptance/evidence workflow.
License Center	Generate machine request, import signed license, verify activation and open license reports.

6. Dashboard

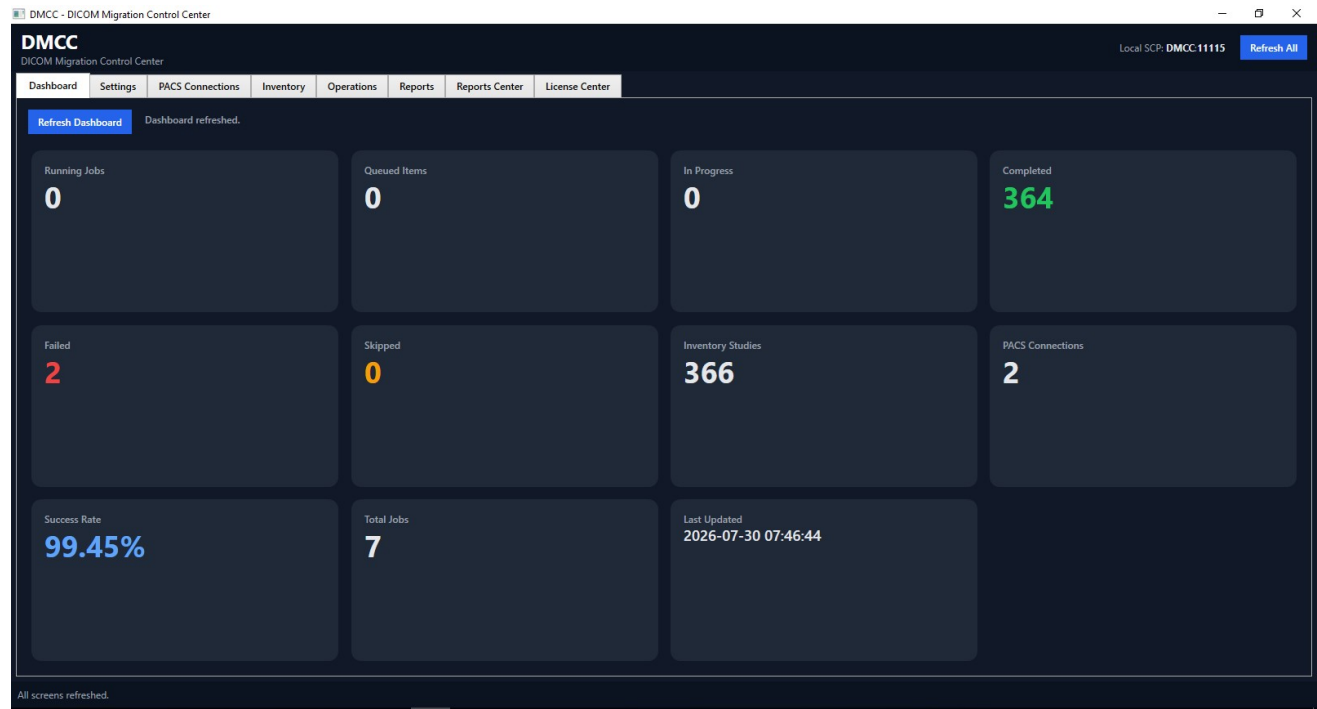


Figure 6-1. Dashboard - migration counters, inventory total, PACS count and success rate.

Tile	Meaning
Running Jobs	Jobs currently Pending/Running from the dashboard perspective.
Queued Items	Study items waiting to be processed.
In Progress	Studies in active processing states.
Completed	Studies that completed the configured workflow.
Failed	Studies ending in failure.
Skipped	Studies deliberately marked Skipped by an operator.
Inventory Studies	Number of studies currently represented in inventory data.
PACS Connections	Configured PACS node count.
Success Rate	Displayed completion/success metric for the current data set.
Total Jobs	Total job records.
Last Updated	Time of the last dashboard refresh.

Interpreting percentages during an active run Do not treat a low success percentage as a failure while a large queue is still outstanding. Read Completed, Failed, Skipped, Queued and In Progress together.

7. Settings

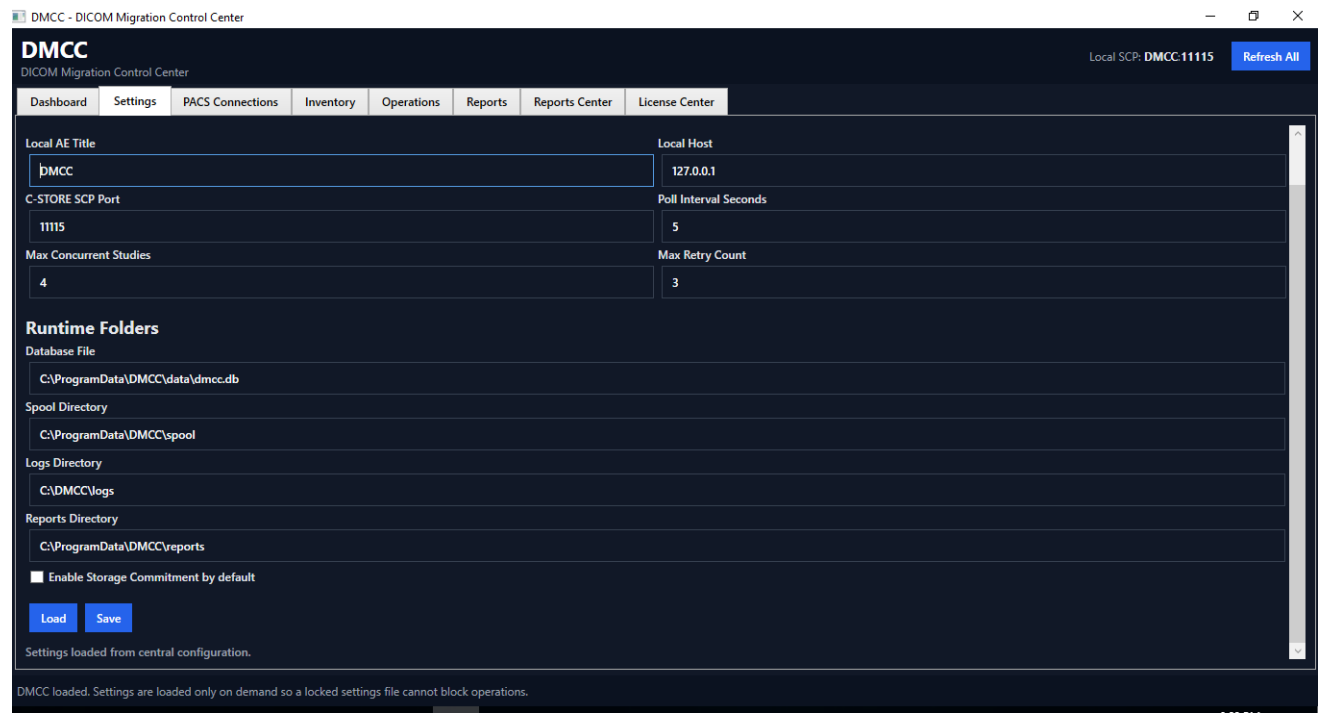


Figure 7-1. Settings - local DICOM node, worker settings and runtime folders.

7.1 Local DICOM node and worker settings

Field	Purpose	Operational guidance
Local AE Title	AE Title used by DMCC for DICOM associations and the local receive destination.	Must match the AE registered on the source PACS for C-MOVE return traffic.
Local Host	Local host setting shown by the application.	Use site-qualified configuration; do not assume a screenshot loopback value is appropriate for remote PACS routing.
C-STORE SCP Port	Inbound DICOM receive port.	Commercial default/reference is 11115.
Poll Interval Seconds	How frequently the worker looks for work.	Leave at qualified/default value unless tuning is required.
Max Concurrent Studies	Maximum studies processed concurrently.	Start conservatively; source PACS behavior can degrade if concurrency is too high.
Max Retry Count	Retry eligibility ceiling used by retry controls.	Increasing this does not fix a persistent PACS/network fault.

7.2 Runtime folders

The Settings screen exposes Database File, Spool Directory, Logs Directory and Reports Directory. Treat the values shown in the running application as authoritative for that deployment.

RUNTIME PATHS Use the paths displayed by the running DMCC Settings screen as authoritative for that installation. Installed Edition operational data is normally held under C:\ProgramData\DMCC, while application binaries are under C:\DMCC_PRODUCTION. Log locations can be configured; use Open Logs Folder or Export Diagnostic Bundle when available.

7.3 Changing settings safely

- Avoid changing AE Title or listener port during an active migration.
- Pause selected jobs before making migration-affecting changes.
- Coordinate AE/port changes with the source PACS routing configuration.
- After changing concurrency, observe source PACS stability, queue progression and failure rate.
- Record non-default settings in the project handover notes.

8. PACS Connections

The screenshot shows the DMCC - DICOM Migration Control Center interface. The top navigation bar includes tabs for Dashboard, Settings, PACS Connections, Inventory, Operations, Reports, Reports Center, and License Center. The PACS Connections tab is active, displaying a form on the left and a table of configured nodes on the right.

Add / Edit / Test PACS Node

Name:

AE Title:

Host / IP:

Port:

☒ Source PACS

☒ Active

☐ Enable Storage Commitment

Loaded 2 PACS connection(s).

Name	AeTitle	Host	Port	IsSource	EnableStorageCommitment	IsActive	Id	CreatedUtc	UpdatedUtc
DCM4CHEE Local	ARCHIVE	127.0.0.1	11112	☒	☐	☒	2	5/16/2026 6:18:53 AM	6/1/2026 12:19:45 PM
efilm	efilm	127.0.0.1	4006	☐	☐	☒	3	5/16/2026 6:19:40 AM	6/1/2026 12:19:36 PM

DMCC loaded. Settings are loaded only on demand so a locked settings file cannot block operations.

Figure 8-1. PACS Connections - add/edit/test a PACS node and view configured nodes.

8.1 Adding a PACS node

1. Enter a descriptive Name.
2. Enter the PACS AE Title exactly as configured on the remote system.
3. Enter Host/IP and DICOM Port.
4. Select Source PACS only for a PACS intended to be queried/retrieved from.
5. Select Active.
6. Enable Storage Commitment only when the migration workflow and destination support it.
7. Select Add.
8. Select the node and use Test C-ECHO.

8.2 Source and destination validation

- C-ECHO from DMCC to source should succeed.
- C-ECHO from DMCC to target should succeed.
- Source must permit C-FIND and C-MOVE from the DMCC AE.
- Source must be configured to route C-MOVE objects to the DMCC local AE/IP/port.
- Target must accept C-STORE from the DMCC local AE.

9. C-FIND Inventory

The screenshot displays the DMCC DICOM Migration Control Center interface. The top navigation bar includes links for Dashboard, Settings, PACS Connections, Inventory, Operations, Reports, Reports Center, and License Center. The main section is titled "C-FIND Inventory Scan and Draft Job Planning". It features a form with the following fields:

- Source PACS:** DCM4CHEE Local
- Target PACS:** efilm
- From Date yyyy-MM-dd:** 2026-06-01
- To Date yyyy-MM-dd:** 2026-06-09
- Concurrency:** 4
- Preview Limit:** 1000

Below the form, there are buttons for "Refresh Preview", "Run C-FIND Scan", "Add Draft Job From Full Filtered Inventory", and "Add Draft Job From Visible Preview Only". A status bar indicates "Matching: 56", "Preview: 56 / 1000", and "Inventory DB: 366".

The main table displays the inventory preview with the following columns:

StudyInstanceUid	PatientId	StudyDate	Modality	StudyDescription	SourcePacsConnection	Id	CreatedUtc	AccessionNumber	PatientName
1.3.12.2.1107.5.1.7.120910.3000002606010931234	RSPH	6/4/2026 12:00:00 AM	CT	00 Head Plain(Adult)	2	489	7/29/2026 2:08:48 PM		SUPARTO
1.3.12.2.1107.5.1.7.120910.3000002606010931234	RSPH	6/4/2026 12:00:00 AM	CT	00 Head Plain(Adult)	2	491	7/29/2026 2:08:48 PM		SUPARTO
1.3.12.2.1107.5.1.7.120910.3000002606010931234	192103	6/4/2026 12:00:00 AM	CT	00 Head Plain(Adult)	2	490	7/29/2026 2:08:48 PM		YULI MARNIS
1.3.12.2.1107.5.1.7.120910.3000002606010931234	192106	6/4/2026 12:00:00 AM	CT	01 Head Plain(Child)	2	492	7/29/2026 2:08:48 PM		AXEL SUGATNO MANVERICK
1.3.12.2.1107.5.1.7.120910.3000002606010931234	RSPH	6/5/2026 12:00:00 AM	CT	00 Head Plain(Adult)	2	495	7/29/2026 2:08:48 PM		SUPARTO
1.3.12.2.1107.5.1.7.120910.3000002606010931234	192136	6/5/2026 12:00:00 AM	CT	00 Head Plain(Adult)	2	497	7/29/2026 2:08:48 PM		MURSHAWATI
1.3.12.2.1107.5.1.7.120910.3000002606010931234	191910	6/5/2026 12:00:00 AM	CT	00 Abdomen Three Phase(Adult)	2	494	7/29/2026 2:08:48 PM		WAN AHMAD
1.3.12.2.1107.5.1.7.120910.3000002606010931234	RSPH	6/5/2026 12:00:00 AM	CT	00 Head Plain(Adult)	2	493	7/29/2026 2:08:48 PM		SUPARTO
1.3.12.2.1107.5.1.7.120910.3000002606010931234	RSPH	6/5/2026 12:00:00 AM	CT	00 Abdomen Plain(Adult)	2	496	7/29/2026 2:08:48 PM		SUPARTO
1.3.12.2.1107.5.1.7.120910.3000002606010931234	011487	6/6/2026 12:00:00 AM	CT	00 Head Plain(Adult)	2	498	7/29/2026 2:08:48 PM		SUCI MARSYA
1.3.12.2.1107.5.1.7.120910.3000002606010931234	RSPH	6/6/2026 12:00:00 AM	CT	00 Abdomen Plain(Adult)	2	499	7/29/2026 2:08:48 PM		SUPARTO
1.3.12.2.1107.5.1.7.120910.3000002606010931234	RSPH	6/6/2026 12:00:00 AM	CT	00 Abdomen Plain(Adult)	2	500	7/29/2026 2:08:48 PM		SUPARTO
1.3.12.2.1107.5.1.7.120910.3000002606010931234	RSPH	6/6/2026 12:00:00 AM	CT	00 Abdomen Plain(Adult)	2	501	7/29/2026 2:08:48 PM		SUPARTO
1.3.12.2.1107.5.1.7.120910.3000002606010931234	RSPH	6/6/2026 12:00:00 AM	CT	00 Head Plain(Adult)	2	502	7/29/2026 2:08:48 PM		SUPARTO
1.3.12.2.1107.5.1.7.120910.3000002606010931234	192226	6/6/2026 12:00:00 AM	CT	01 Head Plain(Child)	2	503	7/29/2026 2:08:48 PM		MAHRA ANNAYA WIDURI
1.3.12.2.1107.5.1.7.120910.3000002606010931234	167727	6/8/2026 12:00:00 AM	CT	00 Head Plain(Adult)	2	509	7/29/2026 2:08:48 PM		RAFFA AL BUCORI
1.3.12.2.1107.5.1.7.120910.3000002606010931234	192277	6/8/2026 12:00:00 AM	CT	00 Head Plain(Adult)	2	510	7/29/2026 2:08:48 PM		I AMBIAH SAGIAN

Figure 9-1. Current late-stage Inventory workflow - C-FIND scan and Draft Job planning.

9.1 Inventory filters

Control	Use
Source PACS	PACS queried by C-FIND.
Target PACS	Target associated with the planned migration job.
From / To Date	Study date range.
Modality	Optional modality filter.
Patient ID	Optional patient-level narrowing.
Accession	Optional accession-number filter.
Concurrency	Concurrency assigned to the planned job.
Preview Limit	Limits rows rendered in the preview table to protect memory/UI responsiveness.
Storage Commitment	Requests the configured Storage Commitment workflow when supported.

9.2 Running inventory

1. Choose source and target PACS.
2. Enter a controlled date range or other filters.
3. Select Run C-FIND Scan.
4. Confirm the Matching count.
5. Review the preview rows for expected Study Instance UID, patient, date, modality and description.
6. Use Refresh Preview when needed.

Matching count vs Preview count The preview is intentionally limited. A Matching count larger than the Preview count means more studies satisfy the filter than are currently shown in the grid.

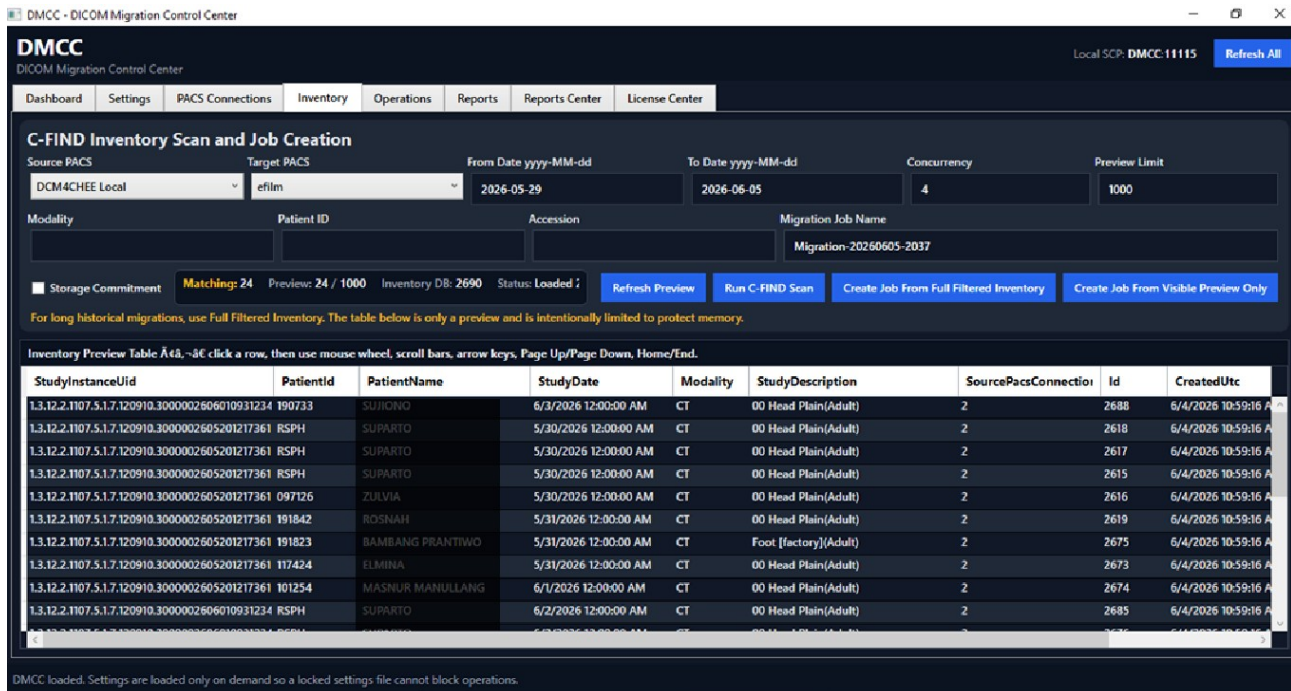


Figure 9-2. Earlier Inventory capture using “Create Job” wording. Later builds use “Add Draft Job” to make the planning stage explicit.

10. Creating Draft Migration Jobs

Inventory creates Draft jobs; it does not start migration. This separation is a safety feature. Operators can review job scope before releasing work in Operations.

Portable Trial: before creating a Draft job, compare the requested matching count with TrialRemaining in License Center. An oversized request is rejected as a whole; DMCC does not create a partial Draft job to consume only the remaining allowance.

Action	Recommended use
Add Draft Job From Visible Preview Only	Small pilot batches and intentionally limited test sets. Only rows visible in the preview are used.
Add Draft Job From Full Filtered Inventory	Production/historical batches where all matching inventory rows should be planned, not only the preview subset.

1. Confirm source, target and filters.
2. Verify Matching count.
3. Set concurrency to a conservative approved value.
4. Use the correct Draft-job creation action.
5. Open Operations.
6. Select the Draft job.
7. Start Selected Job(s) only when ready to release it to the worker.

Long historical migrations Prefer Full Filtered Inventory for large date-range migrations. Preview limits protect the UI and are not intended to cap the job unless Visible Preview Only is deliberately selected.

11. Operations

The screenshot displays the DMCC Operations interface. The top navigation bar includes links for Dashboard, Settings, PACS Connections, Inventory, Operations, Reports, Reports Center, and License Center. The main content area is divided into several sections:

- Operations Status:** Shows 'Loaded 0 validation/retry issue(s)' and 'Last auto refresh: 15:22:31, Interval 3 sec.' A yellow warning message states 'V32 active: controls are in the left scroll panel; study grid remains visible on the right.'
- Operations Controls:** A vertical scroll panel on the left containing buttons for 'Refresh Jobs', 'Stop Selected / Mark Failed', 'Refresh Reliability', 'Retry Failed / Partial', 'Max Retry' (set to 3), 'Reset State', 'Stale Min' (set to 60), 'Job Planning / Execution' (with 'Start Selected Job(s)', 'Pause Selected Job(s)', and 'Resume Selected Job(s)' buttons), 'Stop Specific Study' (with 'Stop Selected Study/Studies / Mark Failed' button), and 'Skip Workflow'.
- Reliability Snapshot:** Displays 'Total 56 | Queued 0 | Active 0 | Completed 56 | Failed 0 | Partial 0 | Skipped 0 | Complete 100%'.
- Throttle / Worker Readiness:** Provides details on throttle settings and worker status.
- Jobs Grid:** A table listing migration jobs with columns for Select, Name, Status, Source, Target, Controlled, Storage Commi, Max Conc., and From. The first row is selected.

Select	Name	Status	Source	Target	Controlled	Storage Commi	Max Conc.	From
☒	Draft 20260601-20260609 DCM4CHEE Local to efilm Full 56 studies 210852	Completed	2	3	☒	☐	4	6/1/20
☐	Draft 20260610-20260619 DCM4CHEE Local to efilm Full 56 studies 210753	Completed	2	3	☒	☐	4	6/10/20
☐	Draft 20260620-20260630 DCM4CHEE Local to efilm Full 66 studies 205410	Completed	2	3	☒	☐	4	6/20/20
☐	Draft 20260701-20260707 DCM4CHEE Local to efilm Full 43 studies 205252	Completed	2	3	☒	☐	4	7/1/20
☐	Draft 20260708-20260714 Existing Job 6 Draft 48 studies Repair20260729-202942	Failed	2	3	☒	☐	4	7/8/20
☐	Draft 20260715-20260721 Existing Job 5 Draft 41 studies Repair20260729-202942	Completed	2	3	☒	☐	4	7/15/20
☐	Draft 20260722-20260729 Existing Job 4 Completed 56 studies Repair20260729-202942	Completed	2	3	☒	☐	4	7/22/20

Figure 11-1. Operations - job controls, filtering, reliability snapshot, throttle readiness and Jobs grid.

Operations is the main day-to-day control screen. The left scroll panel contains operational controls while the right side remains focused on jobs, study items, validation/retry issues, tracked retries and the study timeline.

11.1 Job selection and execution

- Select one or more Draft jobs using the Select checkboxes or supported row selection.
- Start Selected Job(s) releases eligible jobs to Pending/Running processing.
- Pause Selected Job(s) stops new queued studies from being assigned to those jobs; already-active study operations may finish to a safe checkpoint.
- Resume Selected Job(s) returns eligible paused jobs to processing.
- Only Draft/unstarted queued-only jobs should be deleted using the Draft-job delete function when present.

11.2 Search and study lookup

Use Status, Patient ID, Patient Name, Accession, Study UID and Description filters to narrow large migrations. The study grid is paged; use an appropriate Page Size rather than assuming all records are displayed at once.

11.3 Reliability and throttle readiness

The Reliability Snapshot shows item counts by status and completion percentage. The Throttle / Worker Readiness area summarizes whether protective controls are holding new work after failed/partial rows exceed the configured threshold.

Protective throttling When the throttle is protecting the source/destination, investigate the failed/partial pattern before forcing more work. Force-resume behavior is an override, not a repair.

12. Migration Statuses and Controls

Item status	Meaning	Typical operator response
Queued	Waiting for an executable job/worker slot.	Normally wait; investigate if the queue does not move.
Receiving	C-MOVE retrieval is active / DMCC is expecting source objects.	Monitor; check source and local SCP if stuck.
Spooled	DMCC is checking/holding received DICOM files in its spool.	Normally transient.
Forwarding	DMCC is sending spooled objects to the target PACS.	Monitor target C-STORE responses.
AwaitingCommitment	Waiting for Storage Commitment when enabled.	Check destination commitment workflow if timeout occurs.
Validating	DMCC is checking that the study is present at the destination.	Allow configured retries/delay.
Completed	Workflow completed and destination validation passed according to current logic.	No routine action; include in final accounting.
Failed	Processing ended in an error.	Inspect timeline/logs and retry only after the cause is understood.
Partial	Some part of the workflow did not complete; e.g., no files found in spool after C-MOVE or validation not confirmed.	Investigate source->DMCC, spool, target and validation.
Skipped	Operator intentionally excluded the failed/partial item from normal processing.	Retain as an exception and reconcile during handover.

Job status	Meaning
Draft	Planned only; worker ignores until operator starts it.
Pending	Released and eligible for worker processing.
Running	Worker is actively processing the job.
Paused	No new queued work should be assigned; active work may

Job status	Meaning
	finish safely.
Completed	All job work reached final state without job-level failure.
Failed	Job completed with failure conditions.
Cancelled	Cancelled job state where used by the build/workflow.

13. Safe Use of Stop, Retry, Skip and Reset

13.1 Retry Failed / Partial

Retry re-queues eligible failed/partial items while respecting the Max Retry value. It is appropriate for transient errors after the underlying network/PACS condition has cleared. Repeated retry without diagnosis can increase load and obscure the original failure pattern.

The screenshot shows the DMCC Operations Status page. The 'Status' filter is set to 'Failed'. The 'Retry Failed / Partial' button is visible in the 'Operations Controls' panel. The 'Reliability Snapshot' shows: Total 20 | Queued 0 | Active 0 | Completed 18 | Failed 2 | Partial 0 | Skipped 0 | Complete 90%. The 'Throttle / Worker Readiness' section indicates that the throttle protects source/destination PACS by holding new work after failed/partial rows exceed the threshold. The 'Jobs' table shows two failed jobs:

Id	Status	PatientId	PatientName	StudyDescription	StudyInstanceUid	AccessionNumber	StudyDate	Modality	Retry
29283	Failed	2012R0433	AS+ VPCF Stroke MCA Occlusion* Uni Goettinge	Specials*NeuroVPCF Stroke (Adult)	1.3.12.2.1107.5.99.2.61999.3000001210230859021090002	2012R0433	3/30/2010 12:00:00 AM	CT	10
29279	Failed	2012R0984	FL DE ThoracicTA PE*Pentus Spain**	JCT Dualenergy	1.3.12.2.1107.5.99.2.61999.3000001210230859021090002	2012R0984	9/18/2009 12:00:00 AM	CT	11

Figure 13-1. Failed-study filter and Retry Failed / Partial controls. Patient identifiers are masked in this guide.

The screenshot shows the DMCC Operations Status page with the 'Status' filter set to 'Failed'. The 'Mark Failed as Skipped' and 'Retry Skipped' buttons are visible in the 'Operations Controls' panel. The 'Reliability Snapshot' shows: Total 20 | Queued 0 | Active 0 | Completed 18 | Failed 2 | Partial 0 | Skipped 0 | Complete 90%. The 'Throttle / Worker Readiness' section indicates that the throttle protects source/destination PACS by holding new work after failed/partial rows exceed the threshold. The 'Jobs' table shows two failed jobs:

Id	Status	PatientId	PatientName	StudyDescription	StudyInstanceUid	AccessionNumber	StudyDate	Modality	Retry
29283	Failed	2012R0433	AS+ VPCF Stroke MCA Occlusion* Uni Goettinge	Specials*NeuroVPCF Stroke (Adult)	1.3.12.2.1107.5.99.2.61999.3000001210230859021090002	2012R0433	3/30/2010 12:00:00 AM	CT	10
29279	Failed	2012R0984	FL DE ThoracicTA PE*Pentus Spain**	JCT Dualenergy	1.3.12.2.1107.5.99.2.61999.3000001210230859021090002	2012R0984	9/18/2009 12:00:00 AM	CT	11

13.2 Stop Selected Study/Studies / Mark Failed

Use this when an actively problematic study must be stopped and converted into an explicit Failed state for controlled remediation. Select only the intended study rows. Completed, skipped, cancelled or otherwise non-eligible rows should not be treated as active stop targets.

13.3 Mark Failed/Partial as Skipped

Skip is an exception-management action. DMCC records that an operator marked the item Skipped and preserves the previous status/error context in the migration timeline/last-error data. A skipped study is not equivalent to a successful migration.

13.4 Retry Skipped

Retry Skipped can re-queue eligible skipped items, subject to retry controls. Use it when the reason for skipping has been resolved and the study should re-enter processing.

13.5 Reset Stale

Reset Stale is intended for items left in active states beyond the configured stale period, such as Receiving, Spooled, Forwarding, AwaitingCommitment or Validating. It re-queues qualifying stale items. Do not use it as a general “make it work” button for normally active studies.

14. Reports

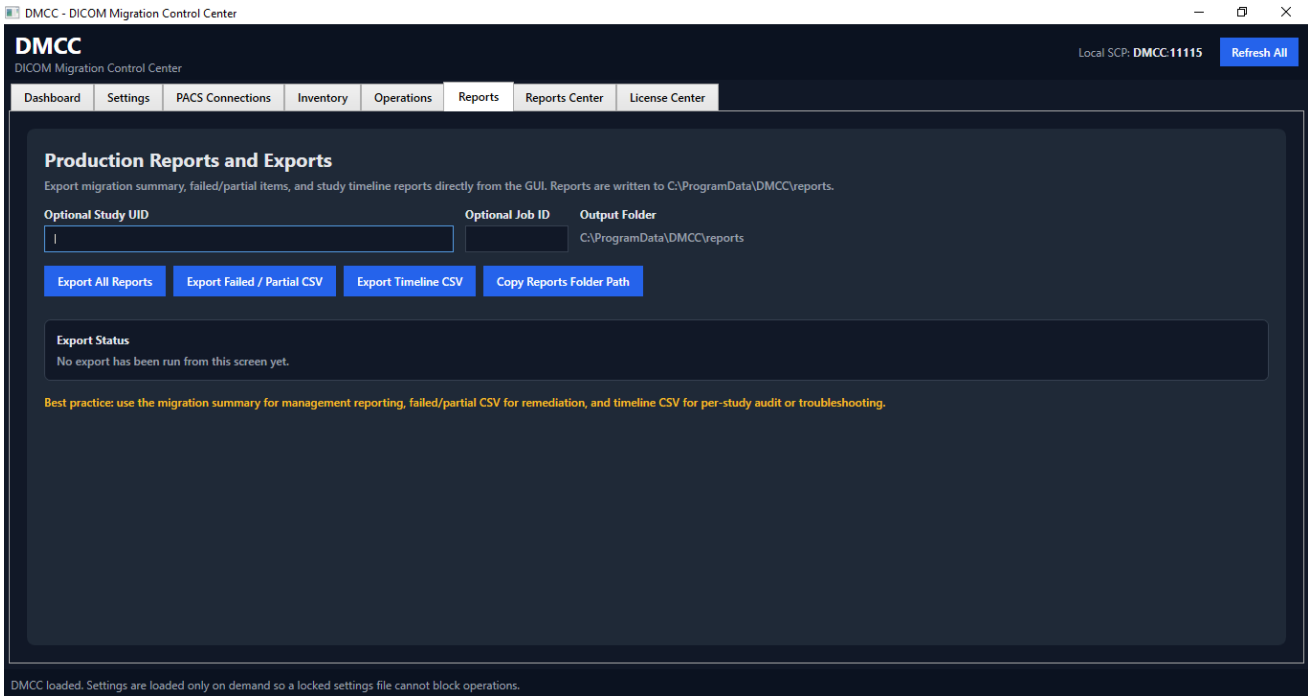


Figure 14-1. Reports - direct production report and CSV exports.

Action	Purpose
Export All Reports	Generate the standard set of production reports.
Export Failed / Partial CSV	Create a remediation list for failed/partial items.
Export Timeline CSV	Export per-study migration timeline data; optional Study

Action	Purpose
	UID/Job ID filters can narrow scope.
Copy Reports Folder Path	Copy the configured report output path for support/handover use.

Use the migration summary for management/accounting, failed/partial CSV for remediation, and timeline CSV for study-level audit or troubleshooting.

15. Reports Center and Evidence Bundle

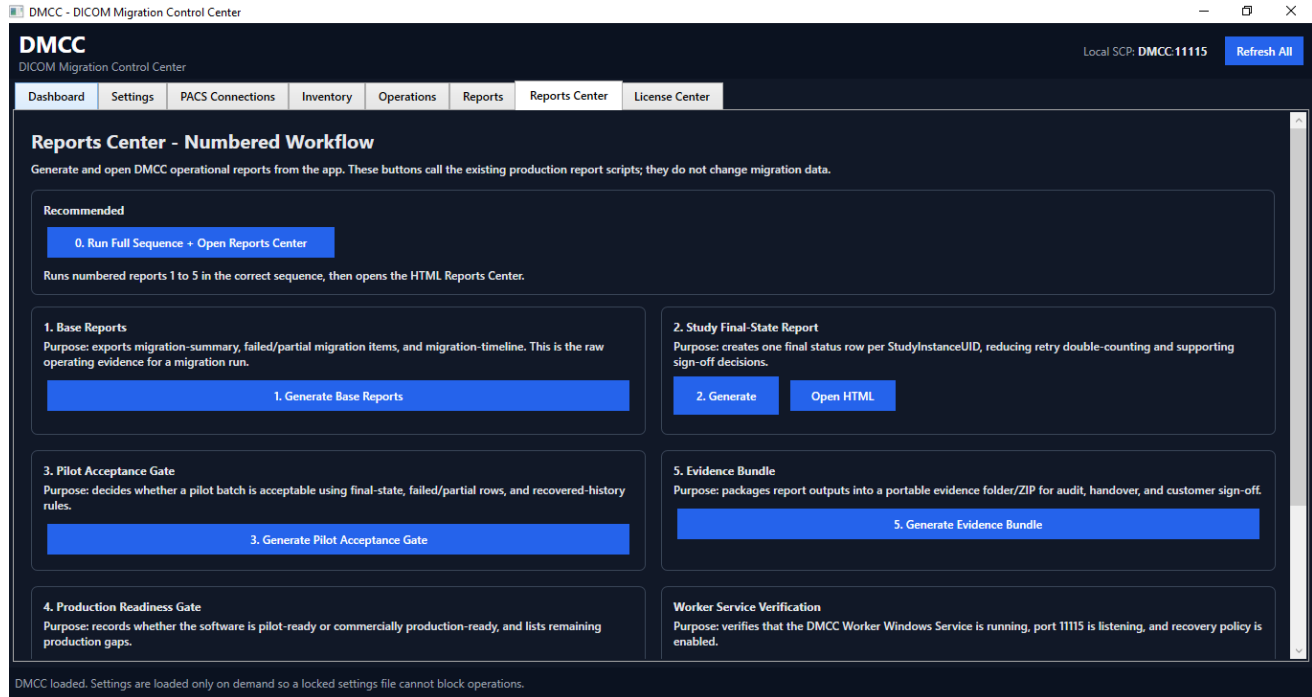


Figure 15-1. Reports Center - numbered workflow for base reports, final-state accounting, acceptance gates and evidence bundle.

1. Run Full Sequence + Open Reports Center for the recommended complete reporting path, or run individual numbered stages deliberately.
2. Generate Base Reports.
3. Generate the Study Final-State Report to reduce retry double-counting and obtain one final row per Study Instance UID.
4. Generate the Pilot Acceptance Gate for pilot go/no-go review.
5. Generate the Production Readiness Gate when evaluating commercial/production readiness.
6. Generate the Evidence Bundle to package outputs for audit, handover and customer sign-off.
7. Verify Worker Service when the control is available.

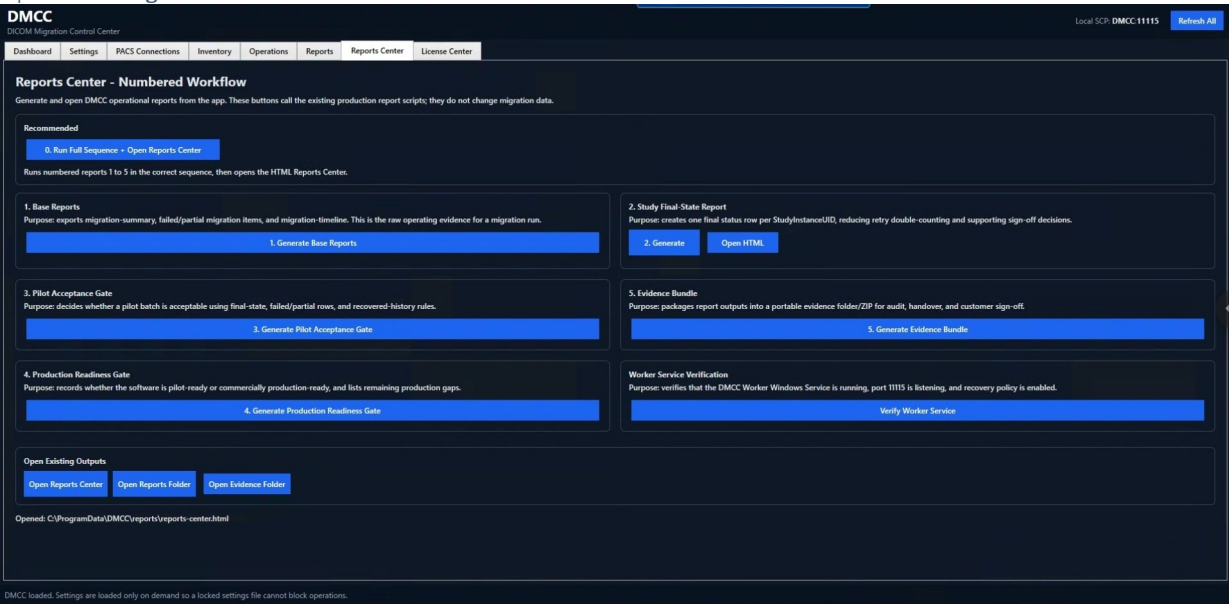


Figure 15-2. Reports Center numbered workflow, including full sequence, final-state reporting, acceptance/readiness gates, evidence bundle and worker verification.

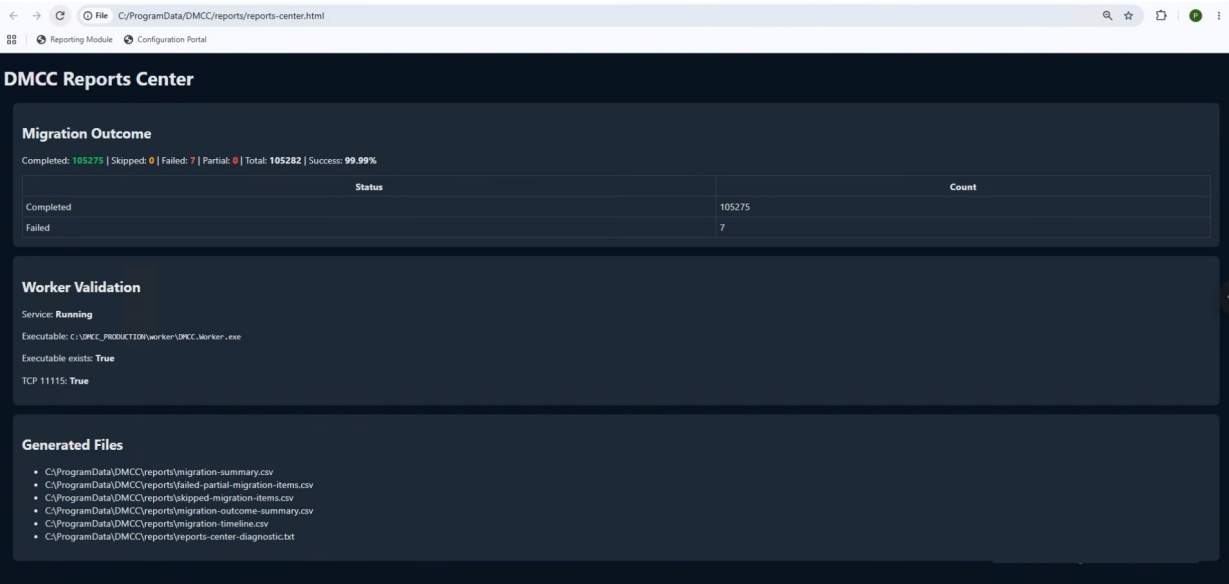


Figure 15-3. Generated Reports Center output showing migration outcome, worker validation and generated report files.

Evidence is part of the migration Do not wait until the last day to discover that reports or exception reasons are missing. Generate reports periodically during long migrations and preserve final evidence with the project handover.

PART III

Licensing

16. Licensing Overview

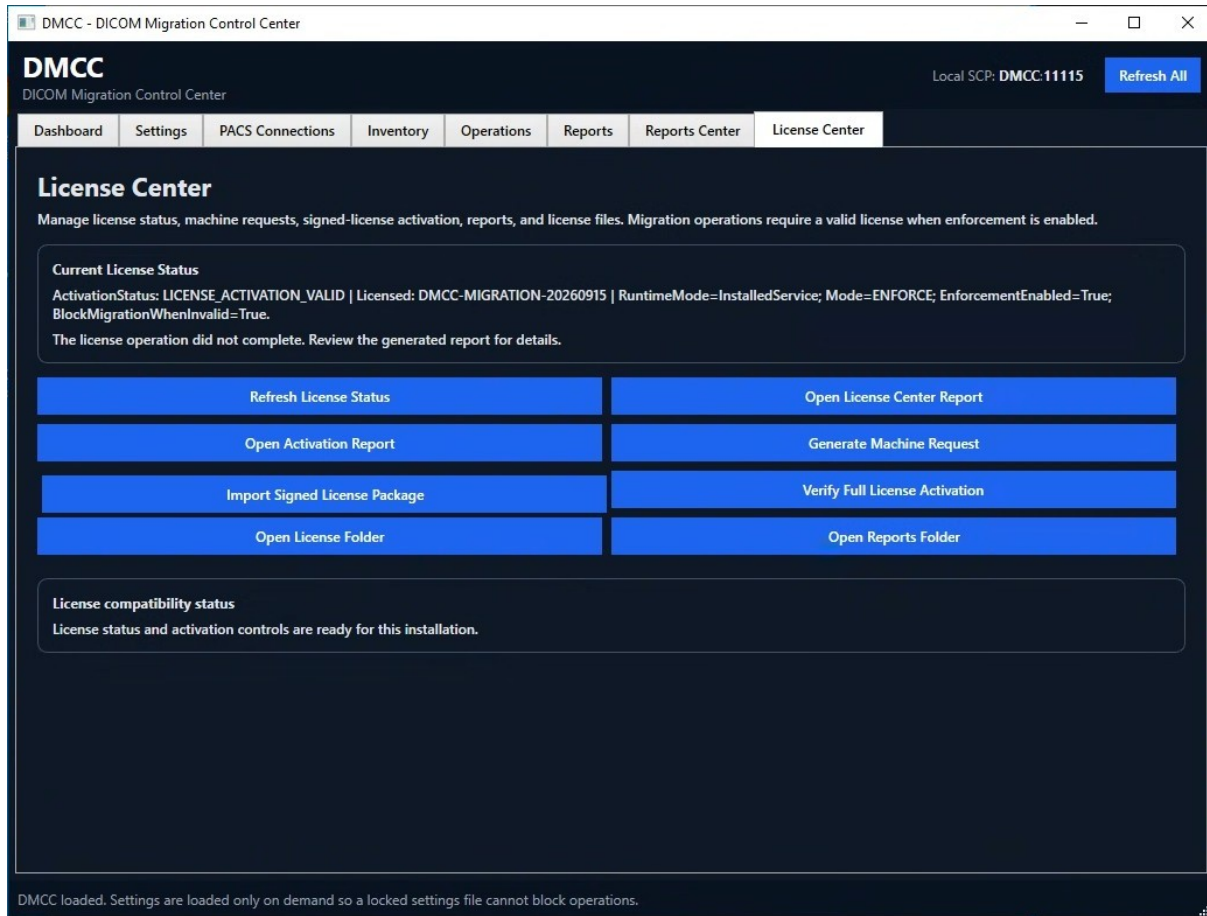


Figure 16-1. License Center - current status, reports, machine request, signed-package import and activation verification.

Mode / state	Operational meaning
Portable Trial	Trial-only package. Up to 200 unique studies.
TRIAL_ACTIVE	Trial below the limit; new trial migration work is allowed.
TRIAL_LIMIT_REACHED	Trial allowance has been consumed; additional new migration is blocked.
Installed / unlicensed	Production package is present but a valid full activation is not available; production migration should remain blocked.
LICENSE_ACTIVATION_VALID	Full Installed license is valid for the machine and active enforcement state.
Invalid activation	License/public-key/activation data does not form a valid activation state; investigate before migration.

Machine-bound activation A signed license file alone is not the complete activation state. The validated workflow also requires the public verification key and a locally generated activation record. Do not manually create activation.dat.

Vendor key security The vendor private signing key belongs only on the controlled vendor licensing system and must never be copied to a customer DMCC machine.

17. License Request and Import Workflow

Installed Edition License Activation Workflow



Figure 17-1. Customer-side Installed Edition activation workflow.

1. Open License Center.

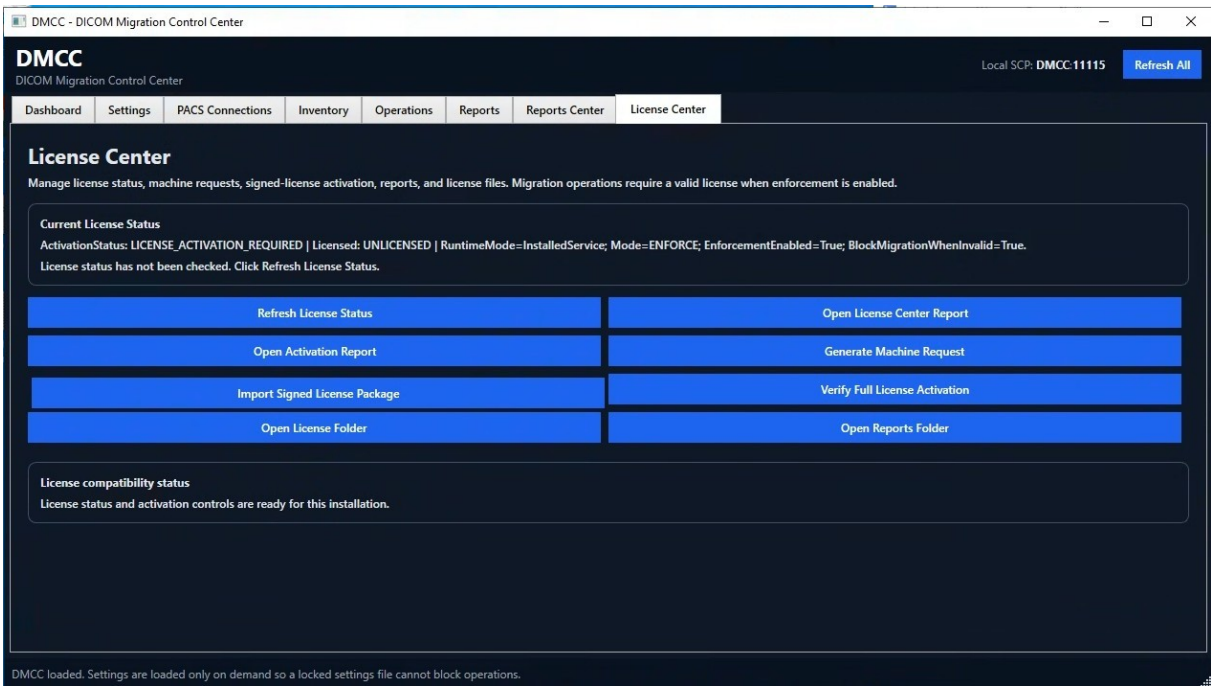


Figure 17-2. Installed Edition before activation: `LICENSE_ACTIVATION_REQUIRED` / `UNLICENSED`.

2. Select Generate Machine Request.

3. Select Open License Folder and locate the generated machine request/package.

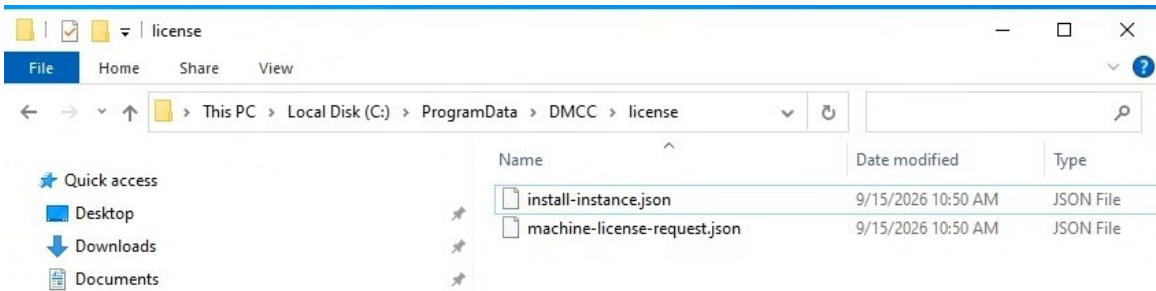


Figure 17-3. Generated machine request in `C:\ProgramData\DMCC\license`. Confirm `machine-license-request.json` before sending the request.

4. Send the generated request to the authorized Globalcare licensing channel.

5. Globalcare generates a signed license package on the vendor system.
6. Receive the signed license ZIP on the licensed DMCC machine.
7. Select Import Signed License Package and choose the ZIP.

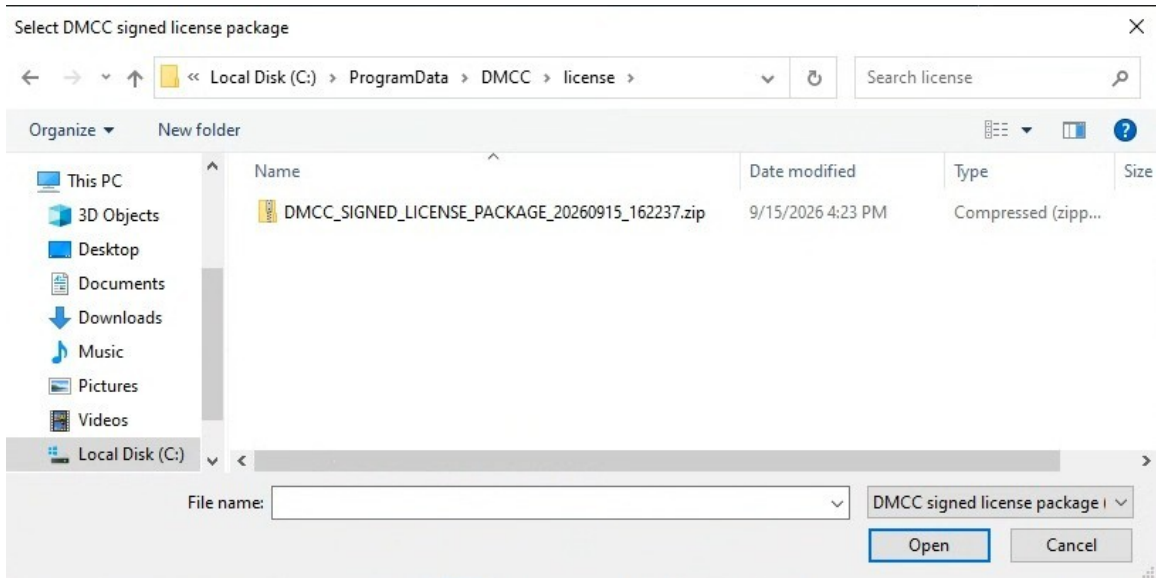
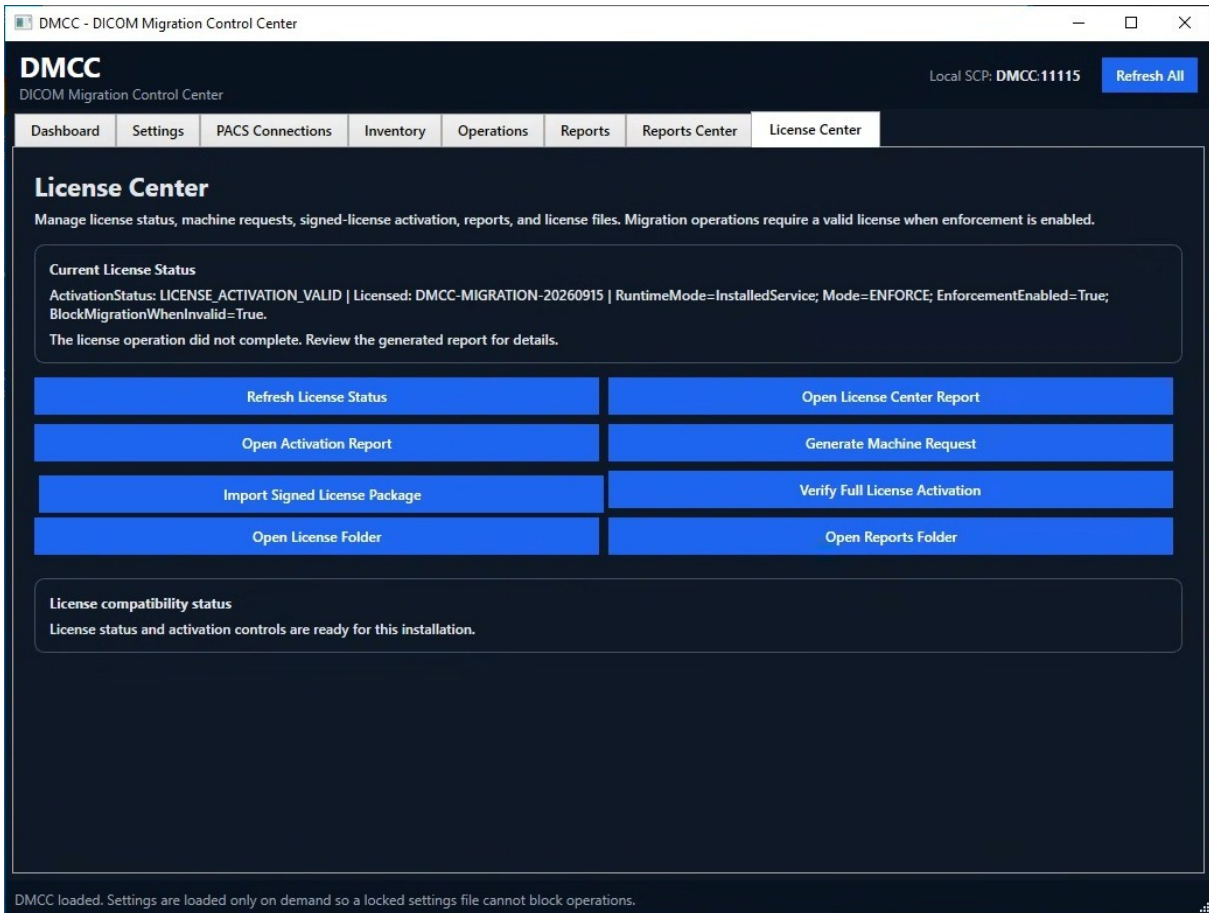


Figure 17-4. Select the vendor-signed DMCC license ZIP in the import dialog.

8. Select Verify Full License Activation.
9. Refresh License Status.
10. Confirm LICENSE_ACTIVATION_VALID and the expected customer/license identifier.



11. Open Activation Report and License Center Report and retain them with the deployment evidence.

Do not “activate” by copying only `dmcc-license.json` Earlier qualification showed that copying only the JSON license file leaves the activation incomplete when the verification public key and activation record are absent. Always use the supported signed-package import and activation workflow.

17.1 What the customer sends

- Generated machine request from the intended DMCC machine.
- Customer/site identifier requested by the license issuer.
- No vendor private key and no manually created activation data.

17.2 What the customer receives

A vendor-signed license package intended for import through License Center. Treat the package as machine/site-specific commercial material and retain it according to the organization’s software/license records policy.

LICENSE WORKFLOW NOTE Generate Machine Request does not display a separate success dialog in the captured v1.0.0 workflow. After selecting it, use Open License Folder and confirm machine-license-request.json exists. After signed-package import, use Verify Full License Activation and Refresh License Status, then confirm `LICENSE_ACTIVATION_VALID`.

18. License Problems and Recovery

Symptom	Likely cause / check	Action
Installed Edition shows invalid/unlicensed	Full license not imported or activation state incomplete	Generate machine request; import signed package; verify activation.
Signed ZIP is rejected	Wrong/corrupt package, wrong machine request or signature/trust problem	Reconfirm request source and package integrity; regenerate through authorized workflow.
dmcc-license.json exists but activation invalid	Public verification key or activation.dat missing	Use the supported activation/import process; do not manually fabricate activation.dat.
Activation was valid before reinstall but is now invalid	Activation record/state was not preserved or no longer matches the installed activation requirements	Use License Center reports and re-run the approved activation workflow if needed.
License status does not refresh	GUI/report state is stale	Refresh License Status; open License Center Report and Activation Report; restart GUI only if necessary.

PART IV

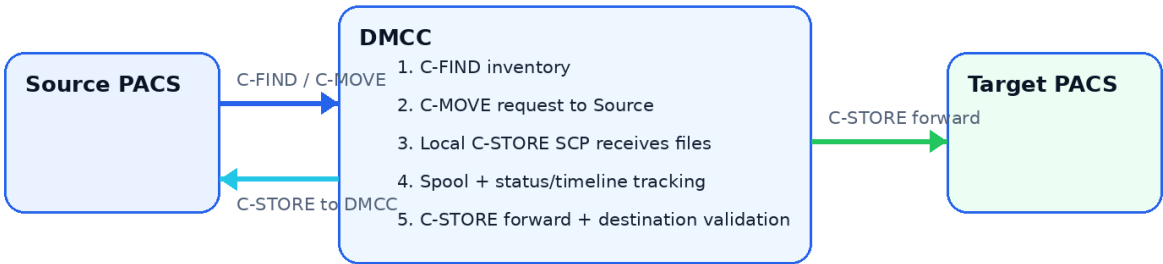
Technical and Administrator Guide

19. Technical Architecture

The production design separates the interactive Windows GUI from the background migration worker. Operational state is persisted in SQLite, DICOM objects are staged in a spool, and reports/evidence are generated from the persisted migration data and timeline.

Component	Responsibility
DMCC.App.exe	WPF user interface: configuration, inventory, operations, reports and licensing.
DMCC.Worker.exe / DMCCWorker	Background job execution, DICOM receive/forward workflow, validation, retry/recovery processing.
DMCC.Dicom	DICOM client/server behavior including C-FIND, C-MOVE, C-STORE and destination validation.
SQLite database	PACS configuration, inventory, jobs, migration items, status and timeline state.
Spool	Temporary DICOM files received from source before/while forwarding.
Reports Center / production tools	Operational reports, final-state ledger, acceptance gates, evidence bundle and diagnostics.
Licensing subsystem	Trial policy, machine request, signed-package verification and Installed Edition activation.

DMCC Controlled Migration Data Flow



Controlled mode uses the DMCC local AE as the C-MOVE destination, then forwards spooled DICOM objects to the configured target.

Figure 19-1. Controlled migration architecture (technical view).

20. DICOM Data Flow

20.1 Inventory

DMCC sends a study-level C-FIND to the configured Source PACS and stores returned study metadata in the local inventory database.

20.2 Controlled retrieval

When controlled mode is used, DMCC creates a C-MOVE request whose move destination is the configured DMCC local AE Title. The source PACS therefore sends matching DICOM objects back to the DMCC local C-STORE SCP.

20.3 Spool and forwarding

After the C-MOVE completes, the worker checks the study spool. If no DICOM files are found, the item becomes Partial. If files are present, DMCC forwards them to the Target PACS using C-STORE.

20.4 Destination validation

After forwarding, DMCC performs destination validation according to the configured validation/retry behavior. If validation is confirmed, the item can complete; otherwise it is recorded for remediation according to the current worker logic.

20.5 Storage Commitment

If the job has Storage Commitment enabled, the workflow can enter AwaitingCommitment and wait for confirmation. Use this only when the destination PACS and site migration procedure support the commitment workflow.

Why this architecture matters for troubleshooting A C-MOVE can complete at the source while the end-to-end migration still fails later. Diagnose the two transfer legs separately: Source PACS -> DMCC receive/spool, then DMCC -> Target PACS forward/validation.

21. Services, Ports and Windows Components

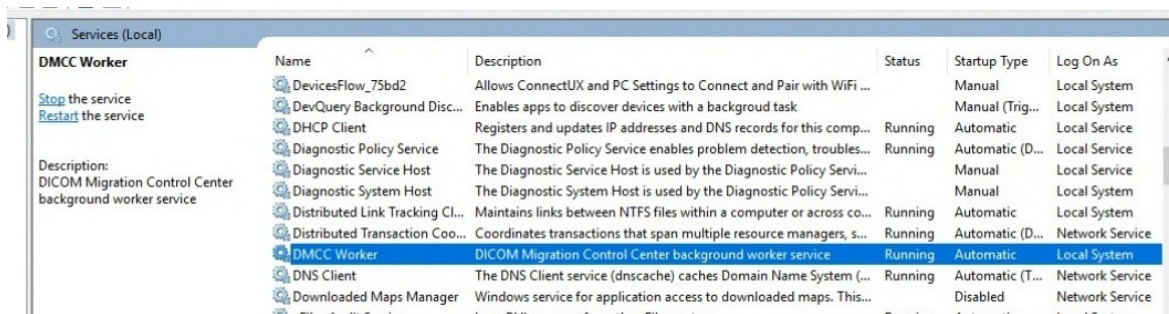


Figure 21-1. Windows Services showing DMCC Worker Running with Automatic startup.

Item	Installed Edition reference
Windows service	DMCCWorker
Display name	DMCC Worker
Service executable	C:\DMCC_PRODUCTION\worker\DMCC.Worker.exe
Start mode	Automatic
Service account	LocalSystem
Default/reference DICOM listener	TCP 11115
Firewall rule	DMCC DICOM Store SCP 11115 - inbound allow
Service recovery	Configured to restart the worker after service failure

Item	Installed Edition reference
	in the commercial installer; verify current policy in Windows Services for the installed release.
GUI executable	C:\DMCC_PRODUCTION\app\DMCC.App.exe
Start Menu	Globalcare > DICOM Migration Control Center

Site-specific DICOM values AE Title and port are configurable. If the deployment uses a non-default listener, update PACS routing and firewall rules consistently.

22. Files, Folders and Runtime Data

Path	Purpose
C:\DMCC_PRODUCTION\app	Installed GUI runtime.
C:\DMCC_PRODUCTION\worker	Installed worker runtime and worker appsettings.
C:\DMCC_PRODUCTION\tools\production	Production tools included with the runtime where applicable.
C:\ProgramData\DMCC\data\dmcc.db	Primary SQLite operational database.
C:\ProgramData\DMCC\spool	Default/reference runtime spool area in commercial packaging.
C:\ProgramData\DMCC\reports	Default/reference report output area.
C:\ProgramData\DMCC\license	License request, imported license and activation state.
Logs directory	Check the current Settings screen and installed log directories; path has varied between late-stage builds.

UNINSTALL BEHAVIOR Uninstall removes the installed application/service, while operational data under C:\ProgramData\DMCC may remain. Treat ProgramData as customer migration state: back it up before upgrade/uninstall and do not assume uninstall is a data wipe. Remove retained data only as a deliberate post-project action.

23. Database, Spool, Logs and Reports

23.1 Database

- Contains PACS connection records, study inventory, migration jobs/items and timeline state.
- Back up before major upgrade, recovery or support intervention.
- Do not edit production rows directly unless following a validated recovery procedure.

23.2 Spool

- Temporary DICOM storage used between source retrieval and target forwarding.
- Completed-study spool folders are cleaned by the worker when cleanup succeeds.
- Unexpected spool growth may indicate forwarding/validation problems or cleanup failure.

23.3 Logs

- Use logs to correlate C-MOVE, C-STORE, spool, validation and worker exceptions.
- Capture timestamps and Study Instance UID for efficient troubleshooting.
- Prefer Export Diagnostic Bundle when available rather than manually collecting scattered files.

23.4 Reports

- Reports are operational evidence, not temporary UI output.
- Preserve final-state, exception, timeline, acceptance and evidence-bundle outputs at project handover.

24. Performance, Concurrency and Throttling

DMCC can process multiple studies concurrently, but throughput is constrained by the source PACS, network, DMCC disk/spool, destination PACS and association behavior. Higher concurrency can reduce completion time on a capable path, but it can also make an older or heavily loaded PACS less stable.

24.1 Recommended tuning approach

1. Start with a conservative concurrency such as the qualified/default site value.
2. Run a controlled pilot batch.
3. Observe source PACS health, C-MOVE behavior, DMCC receive rate, target C-STORE responses, validation success and disk utilization.
4. Increase concurrency gradually only when the path remains stable.
5. If a source PACS becomes unstable under load, reduce concurrency before increasing retry counts.

Current project issue relevance The project has observed that some PACS systems can become unreliable after prolonged/high-volume routing. Concurrency reduction is therefore a valid operational mitigation to test, but it is not proof of root cause. Compare per-study failures, PACS logs and DMCC timelines before concluding that concurrency is the only cause.

24.2 Throttle / worker readiness

Protective throttle logic can hold new work when failed/partial rows exceed a threshold. This is designed to prevent a widespread source/destination problem from generating a much larger exception set. Resolve the condition or use a controlled override only after review.

25. Operational Maintenance, Upgrade and Uninstall

25.1 Daily/shift checks

- Dashboard counters progressing.
- Failed/Partial count not increasing unexpectedly.
- DMCCWorker Running (Installed Edition).
- TCP listener present.
- Spool disk has sufficient free space.
- Source and target PACS connectivity stable.
- Reports can be generated.

25.2 Planned restart

1. Pause selected jobs.
2. Allow active studies to reach a safe checkpoint where practical.
3. Close the GUI.
4. Restart DMCCWorker if required by the maintenance action.
5. Reopen DMCC.
6. Refresh Operations and verify queued work/status.
7. Resume intended jobs.

25.3 Upgrade/reinstall principle

Treat application binaries and ProgramData as separate concerns. Back up database, license and required reports before upgrade. installation lifecycle testing retained ProgramData/database across uninstall/reinstall; nevertheless, the actual release runbook should be followed for each version and the backup should be independently verified.

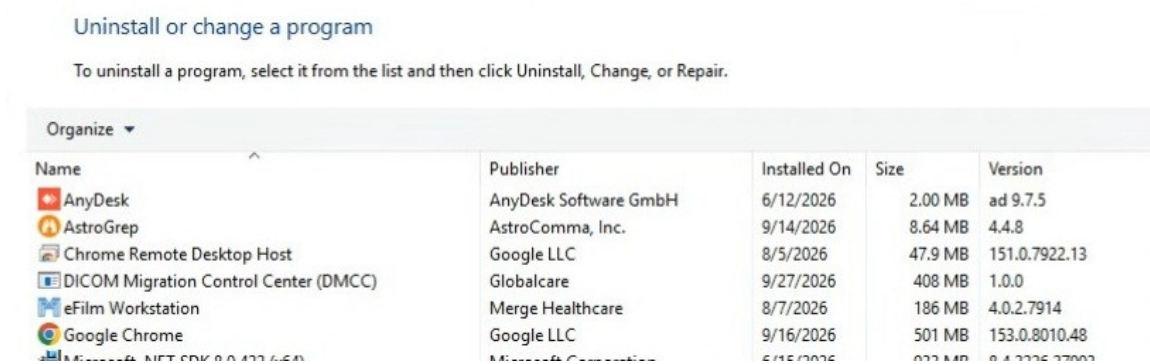


Figure 25-1. DMCC entry in Windows Programs and Features for uninstall/maintenance.

PART V

Troubleshooting

26. Troubleshooting Guide

Start with the exact study and time For migration problems, capture Study Instance UID, job ID, source PACS, target PACS, current status and approximate timestamp before changing anything. This preserves a clean evidence trail.

Symptom	Checks / action
DMCC GUI does not start	Confirm the installed/portable executable exists; check GUI logs; verify access to runtime folders; restart GUI. Installed worker can be checked separately.
DMCCWorker not running	Check Windows service state, service executable path and recent Windows/service logs. Start/restart the service only after confirming no duplicate portable worker is bound to the same port.

Symptom	Checks / action
TCP 11115 not listening	Check DMCCWorker, configured C-STORE SCP Port, port conflict and firewall. Confirm the service process owns the listener.
C-ECHO to PACS fails	Verify AE Title, host/IP, DICOM port, routing/firewall and remote PACS listener. A network ping is not a DICOM test.
C-FIND returns no studies	Confirm source PACS selection, date syntax/range, modality/patient/accession filters and source query permissions. Try a narrower known-good query.
C-MOVE request fails	Confirm source permits C-MOVE from DMCC and knows DMCC local AE/IP/port as the move destination. Review source PACS logs and DMCC study timeline.
C-MOVE completes but DMCC has no files	Check inbound C-STORE to DMCC, local listener, source routing to the DMCC AE and spool. Worker logic records no-files-after-C-MOVE as Partial.
DMCC receives files but target receives none	Confirm spool contains the study, target C-ECHO passes and forwarding/C-STORE starts. Review target association/C-STORE response failures.
Study remains Queued	Confirm parent job is Pending/Running, worker is running, license is valid, throttle is not holding work and concurrency slots are available.
Study remains Receiving/Forwarding/Validating too long	Use timeline/logs first. If the item is truly stale beyond the configured period, Reset Stale can re-queue qualifying active states.
Study is Failed	Inspect last error and timeline to identify whether failure occurred at C-MOVE, forward, validation or another stage. Fix cause before retry.
Study is Partial	Investigate no-files/spool, target delivery and validation. Partial is an exception state, not a success state.
Repeated failures after Retry	Stop increasing retries. Reduce concurrency where relevant, isolate one study, compare direct PACS behavior and review source/target/DMCC logs.
Trial limit reached	No additional new Trial migration work is available after the 200 unique-study limit. Use the Installed/Licensed package for production migration.
Installed license invalid	Use License Center: generate/import/verify; confirm public key and activation record are present through the supported workflow.
Reports missing/empty	Confirm report folder, run Base Reports first, then numbered Reports Center workflow. Use no-content results as a signal to check migration data rather than assuming export failure.

26.1 Source-to-DMCC decision path

1. Did DMCC send the C-MOVE request? If no, check job/worker/license.
2. Did the source return a successful C-MOVE response? If no, inspect source query/retrieve configuration and logs.
3. Did DMCC receive C-STORE associations/objects? If no, inspect source routing to the DMCC AE/IP/port and local listener/firewall.

4. Did files appear in the study spool? If no, correlate DICOM receive and spool logs.

26.2 DMCC-to-target decision path

1. Were spooled files found?
2. Did ForwardingStarted appear in the Study Timeline?
3. Did the target accept the association and C-STORE objects?
4. Did destination validation confirm the Study Instance UID?
5. If not, determine whether the issue is target storage, query/visibility delay, or validation configuration.

DMCC - DICOM Migration Control Center

Local SCP: DMCC11115 Refresh All

Dashboard Settings PACS Connections Inventory Operations Reports Reports Center License Center

Operations Status
Loaded 0 validation/retry issue(s).
Last auto refresh: 15:23:26. Interval 3 sec.

Operations Controls - vertical scroll bar is on this panel

Refresh Jobs Stop Selected / Mark Failed

Refresh Reliability Retry Failed / Partial

Max Retry 3 Reset State Stale Min 60

Job Planning / Execution
Inventory now creates Draft Jobs only. Select one or more rows in Operations > Jobs, then start, pause, or resume them here.

Start Selected Job(s) Pause Selected Job(s)

Resume Selected Job(s)

Stop Specific Study
Select one or more migration item rows in the Study Migration Lookup / Items grid, then stop only the selected study/studies.

Stop Selected Study/Studies / Mark Failed

Safety: completed, skipped, cancelled, or unknown-status rows are skipped unless explicitly handled by script options.

Skip Workflow
If no job is selected, actions apply across all jobs.

Reliability Snapshot
Total 56 | Queued 0 | Active 0 | Completed 56 | Failed 0 | Partial 0 | Skipped 0 | Complete 100%

Throttle / Worker Readiness
Throttle protects source/destination PACS by holding new work after failed/partial rows exceed the threshold. Skipped rows are excluded and can be retried later.
Throttle: Can process [Active 0/4] Delay 1s | Failed+Partial 0, Skipped 0; Threshold 20; ForceResume=False. Worker may process additional queued migration items.

Study Timeline
Study UID: 1.3.12.2.1107.5.1.7.120910.30000026060109312343700000009 Limit: 500 Load Timeline Clear Timeline

Loaded 14 timeline event(s) for study 1.3.12.2.1107.5.1.7.120910.30000026060109312343700000009.

CreatedUtc	Severity	Stage	EventType	Message	StudyInstanceUid
7/29/2026 9:13:28 PM	Info	SpoolCleanup	StudySpoolDeleted	Deleted spool folder after Completed.	1.3.12.2.1107.5.1.7.120910.3000
7/29/2026 9:13:28 PM	Info	Completion	ItemCompleted	Migration item marked Completed after destination validation.	1.3.12.2.1107.5.1.7.120910.3000
7/29/2026 9:13:28 PM	Info	DestinationValidation	ValidationConfirmed	Destination validation confirmed study after 1 attempt(s).	1.3.12.2.1107.5.1.7.120910.3000
7/29/2026 9:13:28 PM	Info	DestinationValidation	Confirmed	Destination validation confirmed study after 1 attempt(s).	1.3.12.2.1107.5.1.7.120910.3000
7/29/2026 9:13:28 PM	Info	DestinationValidation	AttemptStarted	Destination validation attempt 1 of 3 started.	1.3.12.2.1107.5.1.7.120910.3000
7/29/2026 9:13:28 PM	Info	DestinationValidation	ValidationStarted	Starting destination validation with retry.	1.3.12.2.1107.5.1.7.120910.3000
7/29/2026 9:13:04 PM	Info	Forwarding	ForwardingCompleted	Forwarding completed without throwing an exception.	1.3.12.2.1107.5.1.7.120910.3000
7/29/2026 9:13:04 PM	Info	Forwarding	ForwardingStarted	Forwarding spooled DICOM files to destination PACS.	1.3.12.2.1107.5.1.7.120910.3000
7/29/2026 9:13:04 PM	Info	Spool	FilesFound	Found 574 DICOM file(s) in spool for study.	1.3.12.2.1107.5.1.7.120910.3000
7/29/2026 9:13:04 PM	Info	Spool	SpoolCheckStarted	Checking DMCC spool for received DICOM files.	1.3.12.2.1107.5.1.7.120910.3000
7/29/2026 9:13:04 PM	Info	CMove	CMoveRequestCompleted	C-MOVE request completed without throwing an exception.	1.3.12.2.1107.5.1.7.120910.3000
7/29/2026 9:11:58 PM	Info	CMove	CMoveRequestStarted	Requesting C-MOVE from source PACS to DMCC local receiver.	1.3.12.2.1107.5.1.7.120910.3000

Figure 26-1. Study Timeline view - use stage/event messages to isolate C-MOVE, spool, forwarding, validation and completion.

Known source-PACS behavior When a source PACS itself is suspected of long-running resource/routing instability, compare direct source-to-target sends with DMCC-controlled sends, test a single Study Instance UID, and reduce DMCC concurrency. This isolates load sensitivity without assuming that every queued/failed item is a DMCC defect.

27. Diagnostic Commands

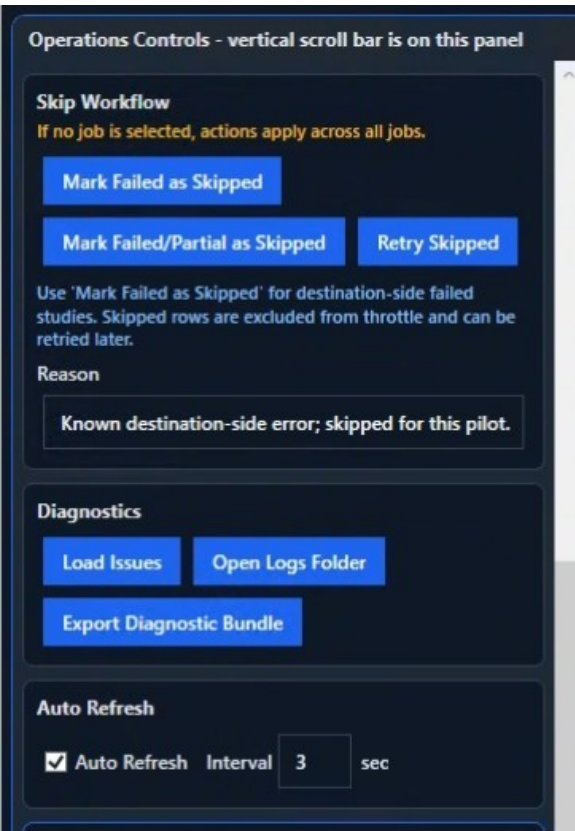


Figure 27-1. Operations Diagnostics controls: Load Issues, Open Logs Folder and Export Diagnostic Bundle.

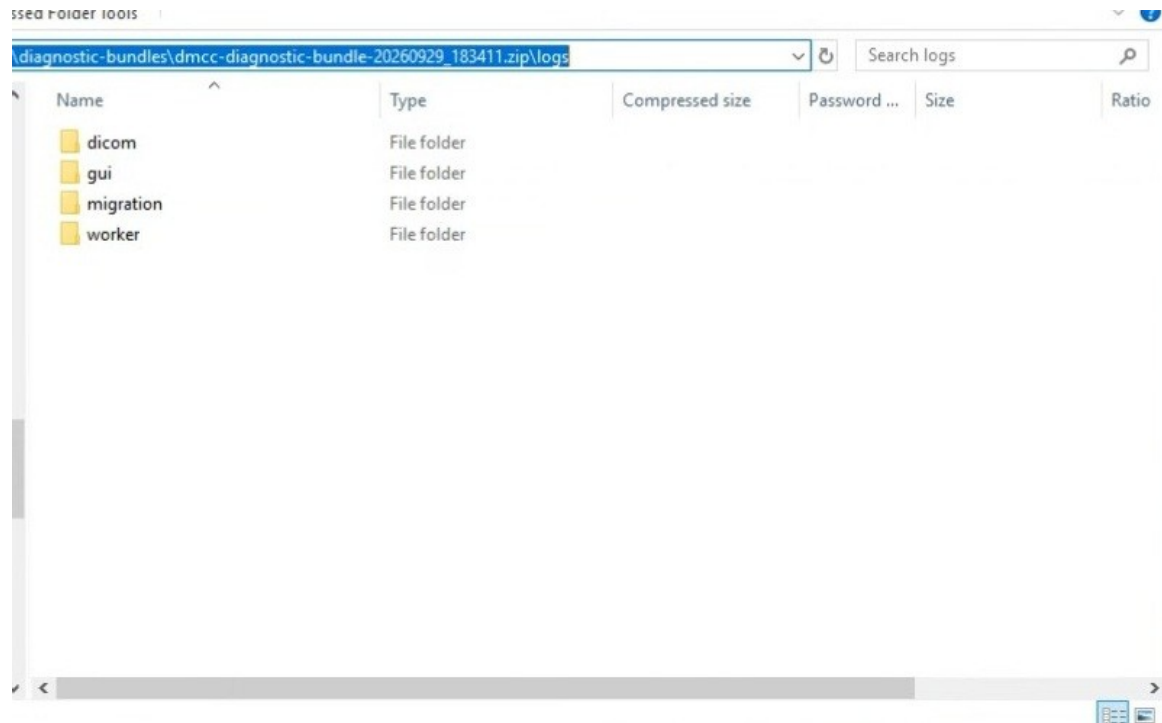


Figure 27-2. Example exported diagnostic bundle containing DICOM, GUI, migration and worker log folders.

The following commands are read-only/status checks unless explicitly noted. Run PowerShell as an administrator on the Installed Edition machine.

27.1 Worker service

Get-Service DMCCWorker

```
Get-CimInstance Win32_Service -Filter "Name='DMCCWorker'" |
Select-Object Name, DisplayName, State, StartMode, StartName, PathName, ProcessId |
Format-List
```

27.2 Local DICOM listener

```
Get-NetTCPConnection -LocalPort 11115 -State Listen -ErrorAction SilentlyContinue |
Select-Object LocalAddress, LocalPort, State, OwningProcess
```

27.3 Firewall rule

```
Get-NetFirewallRule -DisplayName "DMCC DICOM Store SCP 11115" -ErrorAction SilentlyContinue |
Select-Object DisplayName, Enabled, Direction, Action, Profile

Get-NetFirewallRule -DisplayName "DMCC DICOM Store SCP 11115" -ErrorAction SilentlyContinue |
Get-NetFirewallPortFilter |
Select-Object Protocol, LocalPort, RemotePort
```

27.4 Recent runtime files

```
$roots = @(
'C:\ProgramData\DMCC\logs',
'C:\DMCC\logs',
'C:\ProgramData\DMCC\reports'
)

foreach ($root in $roots) {
if (Test-Path $root) {
Write-Host "=== $root ==="
Get-ChildItem $root -Recurse -File -ErrorAction SilentlyContinue |
Sort-Object LastWriteTime -Descending |
Select-Object -First 20 FullName, LastWriteTime, Length
}
}
```

27.5 Start the installed GUI directly

```
$exe = 'C:\DMCC_PRODUCTION\app\DMCC.App.exe'
Get-Item $exe | Select-Object FullName, LastWriteTime, Length | Format-List
Start-Process -FilePath $exe -WorkingDirectory (Split-Path $exe) -Verb RunAs
```

Prefer in-app diagnostics When Operations offers Open Logs Folder or Export Diagnostic Bundle, use those functions first. They reduce the risk of collecting the wrong log root or omitting related evidence.

PART VI

FAQ, Acceptance and Reference

28. Frequently Asked Questions

1. What does DMCC do?

It inventories studies on a source PACS, creates controlled migration jobs, retrieves studies, forwards them to a target, tracks exceptions and produces migration evidence.

2. Is DMCC a PACS?

No. It is a migration control/orchestration application with temporary spooling.

3. Does DMCC use DICOM standards?

Yes. The current implementation uses DICOM C-FIND for inventory, C-MOVE for retrieval, C-STORE for receive/forward and optional Storage Commitment workflows.

4. Why does the source PACS need the DMCC AE configured?

In controlled mode, DMCC is the C-MOVE destination. The source must know where to send DICOM objects for the DMCC AE.

5. Can I migrate directly from source to target without DMCC receiving files?

The current controlled workflow uses the DMCC local AE as the move destination and then forwards from its pool. Do not assume direct source-to-target behavior when troubleshooting DMCC-controlled jobs.

6. How many studies can the Portable Trial migrate?

Up to 200 unique studies. Additional new trial migration work is blocked after the limit is reached.

7. Can I turn the Portable Trial into production by importing a full license?

The commercial policy separates Portable Trial from Installed Full mode. Use the Installed/Licensed package for production rather than treating the portable package as the production conversion path.

8. Does the Installed Edition run when the GUI is closed?

Yes. The background DMCCWorker Windows service performs migration processing in the Installed Edition.

9. What is the default DICOM receive port?

The commercial reference/default listener is TCP 11115, subject to site configuration.

10. What is a Draft job?

A planned job created from inventory. The worker does not execute it until an operator starts/releases it in Operations.

11. What is the difference between Preview and Full Filtered Inventory?

Preview is a limited set of rows shown in the UI. Full Filtered Inventory uses all matching rows and is preferred for large production batches.

12. Can I pause a job immediately?

Pause stops new queued studies from being assigned. A study already receiving or forwarding may finish to a safe checkpoint.

13. What is Partial?

An exception state where the end-to-end workflow was not fully confirmed, such as no files found after C-MOVE or destination validation problems.

14. What is Skipped?

An operator-approved exception. It is not success and should remain visible in final accounting.

15. Can a skipped study be retried?

Yes, eligible skipped items can be re-queued using Retry Skipped, subject to retry controls.

16. Should I increase Max Retry when failures repeat?

Not automatically. Repeated failures normally require diagnosis of source, network, spool, target or validation before more retries.

17. What is Reset Stale for?

It re-queues items left in active states beyond a defined stale period. It is not intended for normally progressing studies.

18. Why might reducing concurrency help?

Some PACS systems have limited association/routing capacity or degrade under sustained load. Lower concurrency reduces pressure and can improve stability.

19. Why does C-ECHO success not prove C-MOVE will work?

C-ECHO tests DICOM reachability. C-MOVE additionally requires query/retrieve permission and source routing to the DMCC move-destination AE.

20. What does “Completed” prove?

It means the configured DMCC workflow reached its completion criteria, including destination validation in the current controlled worker path. Final project acceptance should still use final-state reports and reconciliation.

21. Where are reports stored?

The Reports screen shows the configured output folder. The commercial reference uses C:
\\ProgramData\\DMCC\\reports.

22. Where are logs stored?

Check Settings and Open Logs Folder. Late-stage builds have used more than one log root, so the running configuration should be treated as authoritative until v1.0.0 is frozen.

23. What is an Evidence Bundle?

A packaged set of migration reports and acceptance outputs intended for audit, handover and sign-off.

24. How do I activate a production license?

Generate a machine request, send it to Globalcare, receive a signed package, import it in License Center, verify full activation and retain the activation reports.

25. Can I copy only the license JSON file?

No. The supported activation workflow creates/install the complete trusted activation state; copying only dmcc-license.json was shown to be insufficient.

26. Can I create activation.dat manually?

No. It must be generated by the supported DMCC activation process.

27. Should the vendor private key be sent to the customer?

No. It must remain on the controlled vendor signing system.

28. What should I send when reporting a problem?

DMCC version/build, screenshot, Study Instance UID, job ID, source/target PACS, timestamp, current status, logs/timeline and diagnostic bundle if available.

29. Does uninstall delete migration data?

Uninstall may retain operational data under ProgramData even after application binaries and the worker service are removed. Always back up data before uninstall or upgrade and follow the release-specific runbook.

30. Does the Installed Edition installer show a completion screen?

No. The installer displays a Windows Installer configuration/progress window and exits automatically when installation finishes. Confirm success by launching DMCC from the Start Menu and verifying DMCCWorker is Running.

29. Migration Acceptance and Handover

29.1 Final accounting

- One final-state row per intended Study Instance UID.
- Completed studies accounted for.
- Failed and Partial studies resolved or formally accepted as exceptions.
- Skipped studies reviewed and approved with reasons.
- Retry/recovery history retained where relevant.
- Destination reconciliation performed according to project acceptance criteria.

29.2 Evidence package

- Migration summary.
- Final-state report/sign-off output.
- Failed/partial list.
- Skipped-study list.
- Study timeline where required.
- Pilot Acceptance Gate / Production Readiness outputs as applicable.
- Worker verification.
- Evidence bundle manifest/ZIP.
- License activation evidence for the Installed Edition.

29.3 Sign-off checklist

Check	Owner	Status
Source scope approved		[]
Target route approved		[]
Pilot batch accepted		[]
Final inventory/job scope frozen		[]
Failed/Partial exceptions resolved		[]
Skipped exceptions approved		[]
Final-state report reviewed		[]
Destination reconciliation completed		[]
Evidence bundle archived		[]
License/installation records archived		[]

30. Backup, Reinstall and Release Update Principles

- Before any upgrade or reinstall, back up C:\ProgramData\DMCC\data\dmcc.db and the license/report artifacts required by the release runbook.
- Confirm backup readability and size before removing software.
- Do not assume an uninstall is a data reset. Operational data under ProgramData may be retained.
- Do not copy development source trees, vendor signing keys or build-time secrets to customer runtime systems.

- For self-contained production deployments, remote systems should not need a separate .NET runtime/SDK installation.
- After reinstall/update, verify service, port, PACS C-ECHO, license activation and existing database/report state before resuming jobs.

Appendix A - Quick Status Reference

Status	Stage	Action
Draft	Job	Review then Start Selected Job(s).
Pending	Job	Released/eligible.
Running	Job	Monitor.
Paused	Job	Resume when ready.
Completed	Job/Item	Final accounting.
Failed	Job/Item	Investigate/retry or approve exception.
Queued	Item	Waiting.
Receiving	Item	Source retrieval / inbound receive.
Spooled	Item	Local files present/checking.
Forwarding	Item	Sending to target.
AwaitingCommitment	Item	Waiting for Storage Commitment.
Validating	Item	Destination check.
Partial	Item	Investigate incomplete workflow.
Skipped	Item	Approved exception; not success.

Appendix B - Control Reference

Control	Purpose
Refresh All	Refresh multiple application screens/state.
Test C-ECHO	DICOM connectivity test to selected PACS node.
Run C-FIND Scan	Query source PACS and populate inventory.
Add Draft Job From Full Filtered Inventory	Create a Draft job from all matching inventory rows.
Add Draft Job From Visible Preview Only	Create a Draft job only from preview rows.
Start Selected Job(s)	Release Draft/eligible jobs.
Pause Selected Job(s)	Hold new queued assignment for selected jobs.
Resume Selected Job(s)	Return paused jobs to processing.
Retry Failed / Partial	Re-queue eligible exception items.
Reset Stale	Re-queue qualifying stale active items.
Stop Selected Study/Studies / Mark Failed	Stop selected eligible study work and mark Failed.
Mark Failed/Partial as Skipped	Convert approved exceptions to Skipped with reason/history.
Retry Skipped	Re-queue eligible skipped items.

Control	Purpose
Export Diagnostic Bundle	Package support evidence where available.
Generate Machine Request	Create Installed Edition license request.
Import Signed License Package	Import vendor-signed license ZIP.
Verify Full License Activation	Validate the complete Installed activation state.

Appendix C - DICOM Terms

Term	Plain-language meaning
AE Title	The DICOM application name used to identify a PACS/application endpoint.
Association	A DICOM network session between two AEs.
C-ECHO	Basic DICOM connectivity/verification request.
C-FIND	DICOM query used by DMCC to inventory studies.
C-MOVE	DICOM retrieve request that tells the source to send matching objects to a named destination AE.
C-STORE	DICOM storage request used to transmit an individual DICOM object.
Study Instance UID	Globally unique identifier for a DICOM study; DMCC uses it as the core study migration key.
SOP Instance	A single DICOM object instance.
Storage Commitment	Optional DICOM confirmation that stored objects have been committed by the destination.

Appendix D - PACS Pre-deployment Checklist

Item	Value / confirmation
DMCC host/IP	_____
DMCC AE Title	_____
DMCC C-STORE port	_____
Source PACS AE	_____
Source host/port	_____
Source allows C-FIND	[]
Source allows C-MOVE	[]
Source routes DMCC AE to DMCC host/port	[]
Target PACS AE	_____
Target host/port	_____
Target accepts C-STORE from DMCC	[]
Storage Commitment required	Yes / No
Pilot date range	_____

Item	Value / confirmation
Approved initial concurrency	_____

Appendix E - Support Information Collection

- DMCC software/package version and build date.
- Installed or Portable Trial edition.
- License Center status (do not send private vendor signing material).
- Windows version.
- Source and target PACS vendor/system identifiers.
- Study Instance UID and Job ID.
- Patient identifiers only if permitted by the support process; prefer UID-based evidence where possible.
- Timestamp/timezone of failure.
- Operations status and Study Timeline screenshot/export.
- Worker service status and listener check.
- Diagnostic bundle or relevant logs.
- Whether direct source-to-target transfer succeeds for the same study.
- Current Max Concurrent Studies and retry/throttle settings.

Appendix F - Screenshot Reference Index

- Installed Edition Windows Installer progress/configuration window.
- Windows Start Menu shortcut under Globalcare.
- Portable Trial License Center with TrialUsed / TrialRemaining counters.
- Trial-limit rejection dialog showing that no oversized Draft job is created.
- Installed Edition License Center before activation (LICENSE_ACTIVATION_REQUIRED).
- Generated machine-license-request.json in C:\ProgramData\DMCC\license.
- Signed license ZIP selection dialog and LICENSE_ACTIVATION_VALID state.
- Operations examples with Failed studies and Retry/Skip controls (identifiers masked in this guide).
- Reports Center full-sequence workflow and generated report/evidence result.
- Windows Services showing DMCC Worker Running / Automatic.
- Programs and Features entry used to uninstall DMCC.
- Operations diagnostic controls and exported diagnostic bundle contents.

Appendix G - Source Basis and Release Notes

This guide was compiled from the supplied DMCC v1.0.0-family GUI screenshots, commercial product brochure, deployment/service validation evidence, licensing workflow evidence, current DICOM migration implementation and field troubleshooting records. Release-specific filenames are intentionally omitted so the guide remains valid across hotfix packaging where the workflow is unchanged.

DOCUMENT MAINTENANCE This guide deliberately avoids a fixed MSI filename. For future hotfixes or maintenance releases, update the software version/revision history and replace screenshots only where the workflow or visible controls change materially.