iNM Wave 2.5 - September 2026 Release Notes

Wave 2.5 - Sep 2026 OPS Release Date: Monday, 15th of September 2026

Wave 2.5 - Sep 2026 Released Products:

- AIS Data Maintenance
- AIS Document Library
- Aeronautical Information Publication
- AIMSL Server
- Conventional NOTAM
- Chart Production
- Internet File System
- Legal Recording
- User and Organisation Management

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Table of Contents

DOCUMENT CHARACTERISTICS ..... **I**

1. OVERVIEW **3**

2. WHAT IS NEW IN WAVE 2.5 - SEP 2026 ..... **3**

2.1 AIS Document Library (ADL) **3**

2.1.1 Digital Data Sets (DDS) 4

2.1.2 SWIM Services 5

2.2 AIMSL Server (AIMSL) **5**

2.3 Internet File System (IFS) **5**

2.4 Legal Recording (LREC) **5**

2.5 AIS Data Maintenance (ADM) **6**

2.6 Conventional NOTAM (CNOTAM) **7**

2.7 User and Organization Management (UOM) **7**

2.8 Chart Production (CHP) **7**

2.9 Aeronautical Information Publication (AIP) **8**

3. SCHEDULE DETAILS **11**

3.1 Timetable for Wave 2.5 - Sep 2026 Deployments on OPS: **11**

3.2 Release Webinar or Stakeholder Events-Trainings **11**

4. TECHNICAL DETAILS AND COMPLIANCE **12**

4.1 Recommended Browsers, Operating Systems and HW Specifications **12**

4.1.1 Recommended Browser requirements: 12

4.1.2 Recommended Operating System (OS) requirements: 12

4.1.3 Recommended hardware requirements for eEAD: 12

4.2 Technical Documentation **13**

4.2.1 eEAD Service Specific Technical Documentation on Accessibility 13

4.3 NM Service Specifications **13**

5. CONTACT **14**

1. Overview

NM's digital transformation will be progressively implemented through the iNM Programme and delivered in Waves.

Key Objectives at iNM Wave 2.5 - Sep 2026

Wave 2.5 of the integrated Network Management (iNM) programme delivers significant enhancements across all major digital products of the eEAD system. This release, also marks the next phase of the overall operational rollout of eEAD, building on the capabilities introduced in Wave 2 and Wave 2.4.

Wave 2.5 introduces a comprehensive set of functionalities for EAD clients. The release provides capabilities for Data Management, Conventional and Digital NOTAM management, Charting, and Digital Dataset (DDS) management, together with other key services delivered through the eEAD Digital Products, enabling their operational use by EAD clients.

Wave 2.5 introduces three new digital products:

- AIS Document Library (ADL), delivering end-to-end Digital Data Set and Data Product Specification management with structured publication workflows, B2B access, and SWIM-compliant subscription services;
- AIP Document Management (AIP), enabling the creation, publication, and management of 3-part AIP/eAIP documents, AIC/eAIC, and AIP Supplements.
- Chart Production (CHP), a new ICAO Annex 4 and EU 2017/373 compliant aeronautical chart production capability for creating and managing the full range of ICAO chart types using AIXM 5.1 data sourced directly from eEAD.

Wave 2.5 also strengthens system security, performance, and interoperability across all digital products, ensuring compliance with evolving SWIM and ICAO standards.

2. What is New in Wave 2.5 - Sep 2026

Objective	Wave 2.5 marks a further evolution of the eEAD Digital Products, introducing capabilities designed to support AIS data providers in performing static and dynamic data management activities as well as the management of Aeronautical Information Products, such as Aeronautical Charts, and the newly introduced Digital Data sets (DDS). Wave 2.5 delivers, the capabilities required to support ongoing stakeholder transition to the eEAD system.
Release Scope	eEAD Product based key features delivered with Wave 2.5: **2.1 AIS Document Library (ADL)** The AIS Document Library Digital Product delivers three distinct groups of capability, presented below as three subsections: • Workflow-managed publication — upload, update, cancellation and deletion of AIS Document Files and eAIS Packages are performed through defined

workflow process instances, with distinct Operator, Reviewer and Supervisor responsibilities.

- Worklist and task management — tasks can be searched by name, assignee, status and organisation.
- Document upload and versioning — upload of AIS Document Files and new versions of existing files, with document properties proposed from the current library content.
- eAIS Package handling — upload and extraction of eAIS Packages compliant with the eAIP Specification
- Publication and status management — association of each document file version to exactly one AIS Publication, automatic alignment of publication status with the status of its document files.
- AIS Data Change Report — retrieval of the AIS Data Change Report from the ADM Digital Product.
- Search — search for AIS Document Files by document file properties, by AIS Publication properties and by content
- Download and retrieval — download of individual AIS Document Files and of AIS Document File Packages.
- Document packages — creation of named AIS Document File Packages and of Ad-hoc Packages by manually selecting document files, AIP sections, AIS Publications and eAIPs.
- Subscriptions — creation, update and deletion of subscriptions from the HMI or via B2B, with configurable subscription name, trigger (new publication or periodic), validity period, filtering criteria on document properties, and incremental or full retrieval.
- B2B document services — association of document files to AIS Publications, file properties modification, new version upload, retrieval and download of document files and packages.
- Lifecycle notification — configurable advanced notification for document validity and status change.
- Trigger NOTAM proposals — automatic proposal of trigger NOTAM text derived from AIS Publication properties in accordance with ICAO Doc 8126.
- Data Quality Review Reports — generation of General, Quarterly and Service Review Reports supporting library content quality review, data provider time compliance review and AIRAC adherence monitoring.Statistical reports — filter featured View/Download reports.
- AMDT Calendar Report — generation of the AMDT Calendar Report.
- Duplicate detection — identification and rejection of duplicated AIS Document Files based on defined attribute combinations.
- Roles, access and visibility — a defined set of business and system roles covering data user, operator, reviewer, supervisor, private scope, synchronisation administrator and the AIMSL data provider/user roles.
- Legal recording — AIS Document Files and the various operations applied to them are recorded by the Legal Recording Digital Product.

2.1.1 Digital Data Sets (DDS)

- Data Set Series — creation of Data Set Series via HMI or B2B based on a defined set of mandatory parameters.
- Data Product Specification — creation of the AIS Digital Data Product Specification by XML upload and through the HMI and SWIM API interface.
- Metadata and extraction rules — provision of Digital Data Set metadata by means of HMI or B2B interfaces.

- Verification and Validation — AIXM conformance report provided by the Validation and Verification operation and made available as human-readable in the interface.
- Storage — storage of the uploaded data set together with its Verification and Validation output in human-readable form, and of published artefacts, in ZIP format.
- Download — download of the Digital Data Set as a package containing the AIXM XML file, the checklist, the human-readable rendering, the Verification and Validation report and the latest Data Product Specification.
- Checklist — generation of a Digital Data Set checklist per organisation.
- Publication and cancellation — publication of Digital Data Sets, Data Set Series and Data Product Specifications via B2B using the management workflow.
- Viewer — display the features present in Digital Data Sets on a map in the HMI.
- Search — search for Digital Data Sets using HMI or B2B interfaces.
- Packages and subscriptions — inclusion of Digital Data Set documents in Named Packages and subscriptions, notification when uploaded artefacts are stored in published state.

2.1.2 SWIM Services

- Subscriptions — B2B endpoint provided to validate the SWIM subscription filter supplied by a client. The subscription management (create/update/activate/pause/suspend) is handled by AMQP Message Broker Management (ABM).
- Notification to AIMSL — ADL sends data set and data set series event notifications to the AIMSL Digital Product.
- Digital Data Sets via SWIM — the AIS Digital Data Product Specification can be created through the SWIM interface, and Digital Data Sets, Data Set Series and Data Product Specifications can be published via B2B during the management workflow.

2.2 AIMSL Server (AIMSL)

- Full integration with the EACP PKI infrastructure and Harica certificate authority for mutual TLS authentication, strengthening B2B security.
- Aeronautical Data Set notifications published to the AMQP Message Broker, supporting SWIM-compliant data distribution for digital datasets.

2.3 **Internet File System (IFS**)

- RFC 9457 HTTP Problem Error Responses for the B2B API, giving API consumers standardised, informative error messages.
- Comprehensive user and administrator authorisation across all IFS endpoints, ensuring role-based access control.
- Maximum file upload size increased to 10 GB, supporting the transfer of large files such as datasets and documents.

2.4 Legal Recording (LREC)

- Archive signature verification during the restore process, ensuring that restored data has not been tampered with during long-term storage.
- On-demand removal of restored archived data, allowing operators to clean up investigation instances after use.
- Fixed 90-day purge policy for restored data, ensuring compliance with data retention requirements.
- Restore request period limitations and improved error handling for restore operations, providing clearer feedback to operators.

- Available storage space and estimated restored data size for restore requests, enabling informed decision-making before initiating restores.

2.5 AIS Data Maintenance (ADM)

- Coordination Events management, letting organisations collaborate on AIS data changes through a structured hierarchy with ownership transfer, access control, collaborator management, hierarchical visibility rules, and controlled release workflows.
- Direct release of NOTAM from ADM, allowing AIS data providers to release Digital NOTAMs directly, eliminating the need for an intermediate workflow step.
- GIS geometry drafting (redlining) and spatial calculation tools (polygon union, buffer calculation, perpendicular line creation, offset lines, intersection calculations).
- GIS TEMPDELTA geometry calculations for Digital NOTAM events.
- Advanced geospatial visualisation on the map (spatial filtering by extent and altitude range, custom map layers based on feature filters, export of map layers to SHP, and support for external data and web map services as map layers).
- User session management on the map, allowing users to save and restore their map view, layer configuration, and preferences across sessions.
- Support for custom map layers, external web map services (WMS/WFS), and Area of Responsibility (AoR) map layers, enhancing situational awareness for AIS data maintainers.
- Bilingual support for Digital NOTAM preview, enabling bilingual NOTAM content to be displayed correctly in the ADM interface.
- Redesigned user interface for creating, editing, and releasing Digital NOTAMs covering all coding scenarios, with bilingual NOTAM previews, SR/SS start/end times, and direct release from ADM.
- Creation of a new Digital NOTAM event based on an existing one, reducing data entry effort for operators creating similar events.
- Enable creation of a new AIS feature (e.g. Airspace) based on a copy of an existing feature and reducing data entry effort for operators encoding worldwide data.
- Enhanced AIS data retrieval and export — periodic subscriptions with effective date deviation, export of data changes, dataset validation via a dedicated tool and API, and generation of human-readable AIS Data Change Reports.
- Full integration between the Digital NOTAM management system and CNOTAM, including automated SNOWTAM proposal digitisation, L-variant processing, ASHTAM handling, and parallel processing of Digital NOTAM releases for improved throughput.
- D-variant TAM upload for B2B processing, including replacement, cancellation, and AIS feature withdrawal workflows for Digital NOTAM integration.
- L-variant NOTAM processing including replacement, cancellation, and invalidation scenarios.
- Extended B2B interface supporting D-NOTAM upload from migrated states, transition mode parameters for EAD-to-eEAD synchronisation, and relaxed upload rules for EAD-originated datasets with multiple effective dates.

2.6 Conventional NOTAM (CNOTAM)

- Bilingual NOTAM support, enabling NOTAM offices to create, edit, and distribute NOTAMs in multiple languages, with language configuration managed at the NOF series level.
- NOTAM linkage functionality, enabling NOTAM operators to link NOTAMs to AIS data features (airspaces, navaids, runways, routes, etc.) for improved situational awareness and data quality.
- TAM Provider management for SNOWTAM, including a new SNOW_MIGR provider type and organisation-based allocation of SNOWTAM responsibilities.
- Online help integration via ClickHelp, providing context-sensitive help to NOTAM operators directly within the CNOTAM interface.
- AFTN special character mapping for bilingual NOTAMs, ensuring correct character substitution when distributing NOTAMs via AFTN.
- Non-ICAO aerodrome support in NOTAM Item A, enabling correct processing and distribution of NOTAMs for aerodromes.
- Response signing for all B2B SOAP services, strengthening the security of system-to-system NOTAM interfaces.
- New Digitise Until' field for NOTAM and SNOWTAM proposals, giving Operators control over the digitisation threshold for incoming proposals.
- TAM (NOTAM, SNOWTAM, ASHTAM) B2B services exposed through AIMSL, enabling external system-to-system communication for conventional NOTAM operations.

2.7 User and Organization Management (UOM)

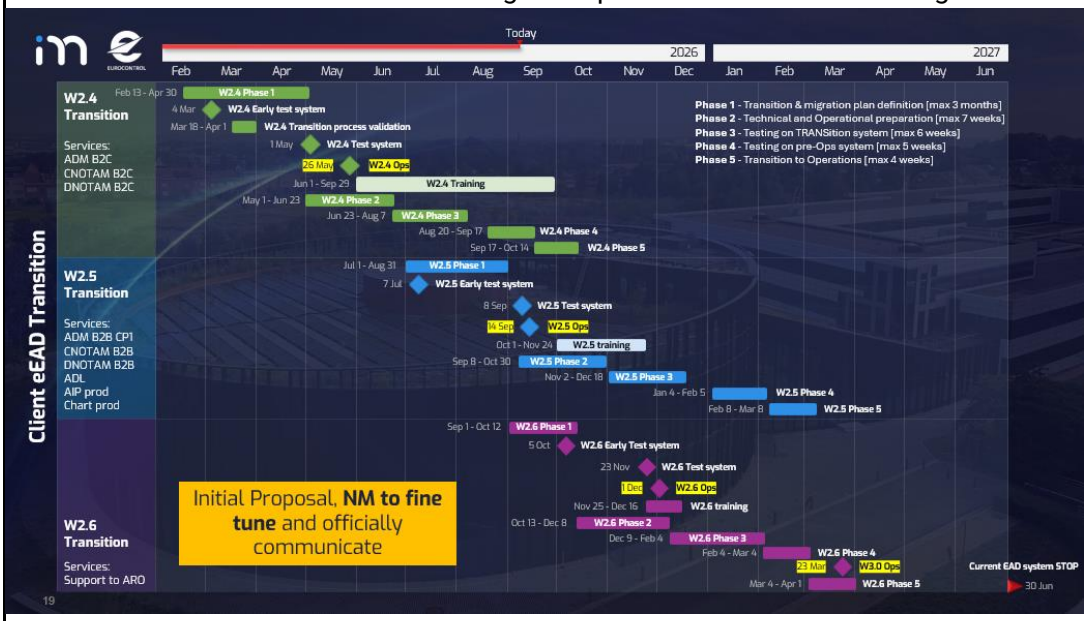
- Organisation Preferences management, providing a configurable framework for storing and retrieving organisation-level settings across iNM digital products.
- Area of Responsibility (AoR) picker integrated into the UOM frontend, enabling administrators to define and manage geographical areas of responsibility for organisations.
- Unit entity management under organisations, supporting the modelling of operational units (including NOF and Military types) within the organisational hierarchy.
- New business roles for multiple digital products including ADL, NOTAM, CNOTAM, AIP and CHP, ensuring correct access control across the platform.

2.8 Chart Production (CHP)

- Delivers a new ICAO Annex 4 and EU 2017/373 compliant aeronautical chart production capability, enabling cartographers to create, edit, and manage the full range of non-electronic ICAO chart types using AIXM 5.1 data sourced directly from eEAD.
- Full set of ICAO Annex 4 compliant chart types — Aeronautical, Aeronautical Navigation, Aerodrome Obstacle (Type A and B), Aerodrome Ground Movement, Precision Approach Terrain, Aircraft Parking/Docking, Area, ATC Surveillance Minimum Altitude, En-route, Instrument Approach, SID, STAR, Visual Approach, Aerodrome/Heliport, World Aeronautical, Plotting, and Free Route Charts — each with pre-configured symbol, label, template, scale bar, border grid, and graticule libraries.
- Support for all four ICAO map projections (Lambert Conformal Conic, Mercator, Polar Stereographic, Transverse Mercator) and WGS geodetic calculations, including track/distance, intersections, and coordinate conversion.

	• Direct AIXM 5.1 data import and continuous synchronization from eEAD via B2B, with automated hourly updates, connection-loss resilience, and full interaction logging. • Change management workflow for reviewing, previewing, and resolving pending eEAD data changes — feature additions, removals, and attribute updates — before they are applied to a chart. • Full chart lifecycle management, including create, save, copy, archive, open, and search by organisation, with PDF output. • Comprehensive plan-view editing toolset — feature placement, labelling, layer control, scale bars, north arrow, MSA, distance circles, compass rose, text annotations, and SVG/shapefile import. • Configuration management for chart types, symbols, labels, scale bars, and symbolization rules, including chart type creation, editing, and retirement. • Chart modification tracking integrated with iNM Legal Recording, for full accountability and non-repudiation. • Topography import from shapefiles, for enriched plan-view context. • Single-page application delivered in English with Unicode support, end-user documentation, online help, and defined browser support. **2.9 Aeronautical Information Publication (AIP) Production** • Delivers a new AIP Production capability, enabling the creation, publication, and management of AIP/eAIP package, AIC/eAIC, and AIP Supplements. • AIP Client (FrameAPS/XML, extending Adobe FrameMaker) for creating and modifying AIP and eAIP documents (GEN, ENR, AD), AIC/eAIC, AIP Supplements/eSUPs, and AIP Amendments — both AIRAC and Non-AIRAC. • Direct AIXM 5.1 data import from eEAD via a dedicated interface, with geographic data requests executed through the ADM WFS to ensure datalink and tables management in AIP documents. • Integration with ADL for AIP document and eAIP package publication, , and metadata capture for AIP products prior to ADL upload. • Automatic recording of AIP and document set issuance, together with ADQ report creation, to Legal Recording (LREC) for full accountability.
Users potentially impacted and/or interested	**Data Users, Data Providers Aeronautical information services (AIS) organizations and military organizations using the EAD service (Clients planned transition to eEAD)**

NM applications and services changed	The following services are added to the eEAD System:
	• Data Origination services:
	  ○ AIS Originated Data (B2B & B2C)
	  ○ DNOTAM Proposal (B2B & B2C)
	  ○ CNOTAM Proposal (B2B & B2C)
	• Data Provider services:
	  ○ AIS Data Management services
	  ▪ Aeronautical Data Management (B2B & B2C)
	  ▪ DNOTAM Provision (B2B & B2C)
	  ○ NOTAM Services
	  ▪ CNOTAM Provision (B2B & B2C)
	  ○ AIS Product services
	  ▪ AIS Product Library

	• AIS Documents (B2B & B2C) • ICAO Digital Data Sets Provision (B2B & B2C) ○ AIP Provision (B2C) ○ CHART Provision (B2C) • Data User services: ○ AIS Data Management services ▪ Aeronautical Data Retrieval Services (B2B & B2C) • AIS Data Explorer (B2C) • CP1 Aeronautical Feature on Demand 2.0 (B2B) • CP1 DNOTAM Subscription and Request (B2B) • CP1 Aeronautical Aerodrome Map Request (B2B) • Aeronautical Data Downloads (B2C) • Aeronautical Data Reports (B2C) ○ AIS Product Services ▪ Aeronautical Document Library • Document Retrieval (B2B & B2C) • ICAO Digital Data Sets (B2B & B2C) No change in the current EAD Service or Systems
Impact category on external users	
Impact description	
Impact on NM Service Specifications	
Operational deployment plan	
Users' early testing	Part of the eEAD client transition and migration plan on OPSTEST for testing. 
Related documentation	

3.Schedule Details

3.1 Timetable for Wave 2.5 - Sep 2026 Deployments on OPS:

System/SW Updated	Schedule	Remark	Impact during deployment/migration
Primary Wave 2.5 - Sep 2026 Deployment			
System Go Live Activation:	**15 September 2026**	Products operational: AIS Document Library (ADL), AIMSL Server (AIMSL), Internet File System (IFS), Legal Recording (LREC), AIS Data Maintenance (ADM), NOTAM Maintenance (CNOTAM), User and Organization Management (UOM), Chart Production (CHP), Aeronautical Information Publication (AIP)	No impact for Stakeholders during the deployment and activation of Wave 2.5.

3.2 Release Webinar or Stakeholder Events-Trainings

(1) No Release webinar is currently planned. eEAD Trainings are scheduled in coordination with Eurocontrol Aviation Learning Centre (ALC)

(2) Wave 2.5 - Sep 2026 transition trainings are scheduled according to the stakeholder training plan.

(3) Regular SSG Events with the updates in eEAD.

4. Technical Details and Compliance

4.1 Recommended Browsers, Operating Systems and HW Specifications

4.1.1 Recommended Browser requirements:

(4) For NM web applications (eEAD Digital Products, NMUI Digital Products), NM recommends one of the following browsers:

- Google Chrome
- Mozilla Firefox
- Microsoft Edge
- Apple Safari

(5) NM recommends that browsers be updated frequently (up to 3 months recommended).

(6) For these recommended browser brands and versions, NM will investigate and resolve issues on the most recent version of each browser and on versions that are **up to 3 months old**.

(7) For any other browser brand or version, issues will be analysed & resolution attempted on a best effort basis.

4.1.2 Recommended Operating System (OS) requirements:

(8) For all NM client applications, NM recommends the following operating systems (OS):

Microsoft Windows	Microsoft Windows 11 64-bit
macOS	macOS 14

Important:

(9) For these recommended OS, NM undertakes to investigate and attempt to resolve problems – For any other OS or OS version, issues will be analysed, and resolution attempted on a best effort basis.

4.1.3 Recommended hardware requirements for eEAD:

The following computer specifications are recommended for an optimal eEAD experience:

	Minimum	Recommended
CPU	4 cores	8 cores or more
GPU	Iris Xe 2GB of video RAM	NVIDIA or AMD 4GB of video RAM or more
RAM	16GB	32Gb or more
Display	FullHD (1920x1080)	UltraHD or 4K (3840x2160)

NM recommends a 4K screen with a 32- or 42-inches screen.

NM recommends that new desktops be 4K with a 32” or 42” screen. FullHD is supported for laptops and to allow the normal hardware upgrade cycles.

(10) Please note that, with the exception of AIP, eEAD B2C Products do not need to be installed on client terminals or hardware — they are web-based and accessed through the browser already installed on the terminal.

4.2 Technical Documentation

4.2.1 eEAD Service Specific Technical Documentation on Accessibility

(11) Three user guides are available, covering different areas of accessibility and technical requirements for local systems.

a) **User Access and Technical Guide for eEAD OPS and Test Access:**

Link: User Access and Technical Guide for iNM eEAD OPS and Test

- Primary network access methods (Internet vs PENS) and access conditions for eEAD OPS and Test Systems.
- Local network configuration for eEAD access over the Internet, including all Test and OPS system addresses (URLs).
- HW, OS, browser technical requirement list.
- eEAD B2C login via MFA - Prerequisites, first-time Okta account activation
- eEAD B2B access - B2B certificate generation, B2B AIMSL/AMQPS technical access details
- EAD Test System 1 access. This test system is connected to the eEAD Sandbox/early client test system.

b) **eEAD PENS User Access Guide for eEAD OPS:**

Link: eEAD PENS User Access Guide for eEAD OPS

- The document has been updated with the new PENS CC (CloudConnect) OPS VPN local configuration information.
- EAD VPN usage, Eurocontrol network design and B2B/B2C service access over PENS, with local network configuration guidelines for the ANSP network team.

c) **NM Secure Internet Access Solution:**

Link: NM Secure Internet Access Solution

- The Secure Internet Access technical solution introduced by EUROCONTROL, enabling access to selected NM B2C and B2B digital services over the public Internet.

4.3 NM Service Specifications

(12) NMD has created specifications that define the following services provided by the Network Manager:

i) Airspace data

ii) Flight planning

iii) Flow and Capacity Management

iv) Central Code Allocation Management (CCAMS)

v) eEAD service

(13) These NM Service Specifications cover at a high-level the functionality, performance and interfaces with the environment as well as the definition of the degraded modes of the service delivery. They support the agreements between the NM as service provider and other organisations and aviation undertakings as users of the services listed above.

(14) The NM Service Specifications will be in due time available upon request to nm.sqs@eurocontrol.int

5. Contact

(15) **For all eEAD Service-specific operational and technical questions and requests** on eEAD Test and Transition Systems (OPT) and subsequently, eEAD OPS System, please contact the eEAD Service Desk: http://servicedesk.ead.eurocontrol.int

When raising a request or question, please indicate which eEAD system the issue relates to.

(16) **For Release Notes notifications,** users who wish to automatically receive by email the new editions of the NM Release Notes (and other communications related to the NM software releases) are invited to register at:

a) http://www.eurocontrol.int/network-operations/self-registration-form

(Within the form, choose "Subscribe to receive e-mail notifications when the NM Release Notes are updated" in the field “Purpose of the request”.

b) Questions or comments related to this document should be sent to: nm.releases@eurocontrol.int

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