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FAA Ground Stop Data: NAS Status XML vs TFMS for OCCs

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Published by LANDING.AERO · 2026-10-15 · faa ground stop data · nas status xml · tfms · flow information · ground stops · ground delay programs · occ dashboards · aviation data integration · swim

Original article: https://www.landing.aero/articles/en/faa-ground-stops-nas-xml-versus-tfms

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Executive Summary

FAA ground stop data comes from the Federal Aviation Administration (FAA) through materially different channels. **Public National Airspace System (NAS) Status XML**, using Extensible Markup Language (XML), is documented as a machine-readable presentation of active airport and en-route events. The accompanying guide describes application updates every minute, but that documentation does not establish a delivery guarantee, a consumer polling allowance, or a complete event history. (nasstatus-alpha.faa.gov) (nasstatus-alpha.faa.gov) **Traffic Flow Management System (TFMS) Flow Information** instead describes traffic-management initiatives and a shared system state for authorized users. (www.faa.gov)

For a United States operations control center (OCC), the choice should follow the required decision. Public status can support a supplementary view of current airport conditions. A contracted vendor or appropriately authorized TFMS service merits evaluation when the requirement includes program definitions, changes, cancellations, accountable support, and recovery after interrupted delivery. **Cirium** documents FAA System Wide Information Management (SWIM) consumption, while **FlightAware AeroAPI** documents airport-delay information; those statements establish different starting points for procurement, not interchangeable ground-stop coverage. (www.cirium.com) (www.flightaware.com) Vendor use restrictions must be checked before integration: **GroundStop.app** expressly excludes flight planning and operational use. (www.groundstop.app)

A **ground stop (GS)** holds flights meeting its criteria at their origins; a **ground delay program (GDP)** assigns expect departure clearance times to regulate arrivals. A stop's next-update time is not a departure clearance time. (nbaa.org) (nbaa.org) (nbaa.org) Program scope, expected end, actual cancellation, source update, receipt, and display time therefore need separate treatment. Historical service descriptions, current marketing language, and measured delivery performance should also remain separate.

This report's publication anchor is **October 10, 2026**; source verification occurred **October 15, 2026**, and later observations are identified below. It supplies a source-selection matrix, a proposed acceptance contract, and a hypothetical event lifecycle. It reports no independently measured feed-latency benchmark and prescribes no

operational freshness cutoff. The **certificate holder's operational-control responsibility** continues under the applicable US rules; software provides information within that responsibility. The domestic Part 121 rule and Part 135 rule assign that responsibility to the certificate holder. (www.ecfr.gov) (www.ecfr.gov)

Introduction and Background

The integration question behind “FAA ground stop data feed” is narrower than “where are flights delayed?” An OCC may need to identify an active restriction affecting a destination, determine whether its departures fall within the restriction's scope, compare an updated program with an earlier version, or establish why an alert was shown. Those requirements should be written separately before choosing a feed.

The underlying categories also differ. FAA's ground-stop explanation describes destination-bound flights held at their departure points. The National Business Aviation Association (NBAA) describes GDPs as departure-airport delays that reconcile demand with destination capacity. (www.fly.faa.gov) (nbaa.org) FAA defines a GDP as controlling airport-bound traffic when projected demand exceeds the airport's acceptance rate for a lengthy period. (www.fly.faa.gov) A GDP can be proposed before implementation, so an advisory announcing a possibility does not itself establish an active program. (nbaa.org) An airport closure introduces another question: the NAS Status guide directs users to the relevant Notice to Airmen (NOTAM) for additional details and exceptions. (nasstatus-alpha.faa.gov)

A dashboard should consequently preserve **event class**, **status**, and **scope**, rather than reduce everything to a colored airport marker. An airline arrival delay, an airport GDP, and an airspace restriction are different objects. OAG's flight-status documentation lists scheduled, estimated, and actual gate and runway times, while SkyLink's FAA-delay documentation distinguishes an airspace facility identifier from an airport code. (www.oag.com) (skylinkapi.com) A proposed data model should keep those distinctions visible.

This report addresses US NAS ground situational awareness for airline and Part 135 OCC managers and their information technology (IT) staff. It does not establish a source's suitability for dispatch decisions or replace an operator's manuals. Under the domestic Part 121 provision, the pilot in command and dispatcher share specified responsibilities for planning, delay, and dispatch release; Part 135 requires identification of authorized operational-control personnel in the required manual. (www.ecfr.gov) (www.ecfr.gov)

The publishing studio, **LANDING.AERO**, describes a custom development model in which applications are designed around an operator's needs. That makes it an adjacent integration option in this comparison, rather than a supplier of an FAA data entitlement. (www.landing.aero) The practical sequence is to settle source rights and required event semantics, then decide whether an existing operations product or a custom adapter best fits the workflow.

Public FAA NAS Status XML

Capabilities

The public NAS Status guide distinguishes **active airport events**, **active en-route events**, and **forecast events**. Active airport categories include closures, GSs, and GDPs; forecast information is drawn from the Air Traffic Control System Command Center (ATCSCC) Operations Plan advisory. (nasstatus-alpha.faa.gov)

(nasstatus-alpha.faa.gov) For “FAA NAS status XML ground stops,” keep the documented active-data channel separate from forecast planning material. Forecast coverage should be verified in the selected interface rather than inferred from the website's broader presentation.

The public XML endpoint verified during this research was the NAS Status **airport-status-information** application programming interface (API) route. The permitted rendering exposed `Update_Time`, `Dtd_File`, airport `ARPT`, and category-specific delay and closure fields. The rendering showed GDP `Reason`, `Avg`, and `Max`, and closure `Start` and `Reopen`; representative GS payloads remain necessary to verify the GS field set. It also inserted ellipses and escaped tag names, so it was not accepted as a complete, unmodified schema specimen. Its embedded Document Type Definition (DTD) reference was `http://www.fly.faa.gov/AirportStatus.dtd`. (nasstatus.faa.gov) Endpoint availability at retrieval does not establish uninterrupted availability, an approved integration contract, or required/optional field semantics.

The guide describes a header showing both the site's update time and current time, and user interface (UI) tags for newly added or updated event information. (nasstatus-alpha.faa.gov) These presentation cues can help a reader understand the page. They should not be silently promoted into a durable program revision number or an auditable cancellation message.

Adoption

Deployment fit, rather than an unsupported adoption statistic, is the useful assessment. Public XML is a candidate for a supplementary airport-status panel when the operator approves that use and needs a current-event overview. Program-aware applications need more evidence: NBAA explains that GS scope determines which flights are captured, and that the stop's update time is not an expect departure clearance time (EDCT). (nbaa.org) (nbaa.org)

A prototype should distinguish the following:

- **Active observation:** An event was present in the retrieved snapshot.
- **Forecast observation:** A separate planning source describes a possible or probable initiative.
- **Unavailable observation:** Retrieval, parsing, or validation failed.
- **Missing observation:** An earlier event is absent from a later valid snapshot.
- **Confirmed cancellation:** A source with documented cancellation semantics reports cancellation.

These are proposed application states, not claimed public XML elements. A disappearance alone should not be labeled confirmed cancellation without source documentation supporting that interpretation.

Strengths and Limitations

The public presentation's principal attraction is its directly accessible active-event view. The main integration limitation in this research is **unverified schema and lifecycle detail**. The linked DTD could not be retrieved as a usable schema. No fetched official public-feed source established durable event IDs, revision ordering, cancellation payloads, history retention, redistribution permissions, or a service-level agreement. A failed schema check is a procurement and validation gap, not evidence that a field never exists.

Cross-checking remains useful. GroundStop.app documents departure-facility scope and Coordinated Universal Time (UTC) start/end information in its own representation, while SkyLink documents programs refreshed on each request. Those are vendor representations requiring separate rights and semantic checks, not proof of the public XML's schema. (www.groundstop.app) (www.groundstop.app) (skylinkapi.com) Retain the distinction between what an integration observes, what documentation defines, and what the operator authorizes.

Agreement-Gated TFMS Flow Information

Capabilities

FAA's **Traffic Flow Management Data** service on the agreement portal publishes **Flight Data** and **Flow Information**. Flight cancellations appear within the flight-data description; TMI definitions, including GS and GDP definitions, appear within the flow description. (aa.data.faa.gov) A **traffic-management initiative (TMI)** cancellation should therefore not be confused with cancellation of an individual flight.

Historical FAA service material describes Flow Information as a shared TFMS state for authorized users. Its message descriptions include GS parameter creation/update, and its operational description explains that initiatives change or are cancelled as conditions dictate. (www.faa.gov) (www.faa.gov) (www.faa.gov) These sources substantiate the richer lifecycle concept behind “NAS status XML vs TFMS.” They do not certify the exact current production payload, schema version, or resynchronization procedure.

A TFMS ground stop data integration should ask: can the offered service reconstruct the required current state and explain each transition? A possible answer might involve published definitions, changes, explicit removals, and a supported recovery mechanism. That answer must come from the current service description and agreement, not from inferred equivalence between a historical diagram and today's endpoint.

Adoption

FAA's portal requires registration before dataset signup. Its historical Request/Reply description says authorization is managed so that only FAA-approved users request services. (aa.data.faa.gov) (www.faa.gov) Access should therefore be planned as an agreement and onboarding process, with a verified permitted use, rather than assumed to follow automatically from holding an operator certificate.

SWIM access is not one universal operational entitlement. The FAA describes SWIM Cloud Distribution Service (SCDS) products as intended for non-NAS, non-operational use. That stated restriction must be evaluated against an OCC's proposed purpose. (www.faa.gov) A public distribution route and an operationally appropriate source are distinct procurement questions.

For an access request, prepare:

- **Purpose:** Identify the dashboard decision and intended users.
- **Service:** Name the required Flow Information product.
- **Use rights:** Establish operational, storage, and derivative-use permissions.
- **Distribution:** Identify every downstream display and recipient.
- **Interface:** Obtain the applicable current schema and service documentation.

- **Recovery:** Request supported reconnection and state-reconstruction procedures.
- **Ownership:** Assign agreement, data-quality, and operations contacts.

Cirium's documentation separately states that API families have different licensing, pricing, and usage models. A vendor contract also needs service-specific review rather than a generic assumption that every product has the same rights. (developer.cirium.com)

Strengths and Limitations

TFMS's documented lifecycle vocabulary is a stronger foundation for reconstructing TMI state than a current-event presentation alone. The limitation is the work required to validate access, semantics, and recovery. The fetched material did not resolve current GS identifier scope, cancellation payload shape, revision ordering, or supported replay behavior.

The portal also imposes redistribution conditions, including restrictions on characterizing redistributed information as FAA data and requirements tied to service documentation. (aa.data.faa.gov) Data lineage labels must therefore match the agreement. “Originating from an FAA-described service” is not permission to publish an unrestricted FAA-branded feed.

A vendor already holding appropriate rights and supporting the required fields can be the practical intermediary. Cirium documents FAA SWIM consumption. That is a useful procurement lead, not verified permission for a particular GS redistribution design. (www.cirium.com)

Licensed Vendor Data and Operational Products

Capabilities

A vendor can package data access, normalization, interfaces, and support. The comparison must nevertheless start with **documented event coverage**. FlightAware lists airport-delay information; Cirium describes SWIM use for analyzing delay causes. Neither statement alone establishes a complete GS revision and cancellation contract. (www.flightaware.com) (www.cirium.com)

SkyLink API provides a more explicit program-oriented example: its FAA-delay documentation describes current programs refreshed on request, an expected UTC ground-stop end time that can be absent, and separate airspace-facility identifiers. (skylinkapi.com) (skylinkapi.com) Those details are useful field questions for any supplier. Its documented situational-awareness restriction also needs review before an operational deployment. (skylinkapi.com)

GroundStop.app documents JavaScript Object Notation (JSON) ground stops, delays, and weather, including scope and advisory links, but expressly excludes flight planning and operational use. It is a documentation example, not an operational recommendation in this report. (www.groundstop.app) (www.groundstop.app) (www.groundstop.app)

Adoption

Procurement should also distinguish **flight status**, **surveillance**, and **TMI programs**. OAG markets a representational state transfer (REST) JSON flight-status API with gate times, delays, and cancellations. (www.oag.com) AirNav Systems describes position feeds using sources including FAA SWIM, and separately describes schedules, departures, and arrivals. (airnavsystems.com) (airnavsystems.com) AireonSTREAM describes Automatic Dependent Surveillance Broadcast (ADS-B) surveillance fused with contextual data. (aireon.com) These documented scopes do not, by themselves, establish GS program coverage.

Transport is likewise insufficient evidence. Cirium's Sky Stream uses Advanced Message Queuing Protocol (AMQP) for movement or flight-status messages; Aireon also documents AMQP delivery. Sharing a messaging protocol does not establish matching event classes, timing, licensing, or cancellation semantics. (developer.cirium.com) (aireon.com)

For vendor selection, require:

- **Coverage proof:** Obtain sample GS, GDP, and closure records.
- **Scope proof:** Check which departures or facilities are captured.
- **Lifecycle proof:** Demonstrate creation, amendment, and termination.
- **Timestamp proof:** Identify source, transformation, and delivery clocks.
- **Rights proof:** Confirm the intended operational and redistribution use.
- **History proof:** Demonstrate event replay, not merely flight history.
- **Support proof:** Identify the contracted escalation route.
- **Recovery proof:** Demonstrate the state after an interrupted connection.

Strengths and Limitations

The vendor route can reduce the amount of source-specific plumbing the operator owns, if that work and accountability are included in the contract. FlightAware describes email and phone support in its Premium tier; AirNav describes a dedicated integration team. These are the vendors' service descriptions, not an independently verified response-time guarantee. (www.flightaware.com) (airnavsystems.com)

A packaged operations product may be preferable when the unmet need is dispatch workflow, flight following, crew scheduling, or an established operations record. A data API supplies information to software; it does not by itself demonstrate those workflows. Cirium's API overview, for example, distinguishes multiple data products and licensing models rather than a single universal interface. (developer.cirium.com) The operator should evaluate the relevant product category separately.

A custom bridge becomes appropriate when source access and the operating workflow already exist, but reconciliation, airport mapping, alert routing, or integration remains the gap. Adding another feed before defining those requirements can leave the fundamental data contract unresolved.

Feature Comparison

Table 1 compares source categories against the decisions an OCC needs to support. “Verify” means the fetched material did not establish the required contract; it is not a claim that the capability is absent.

Source	Access and use	Event class and lifecycle	Time and identifiers	Field-level question	Accountable owner
Public NAS Status XML	Public endpoint observed; polling, redistribution, and operational-use conditions still require verification.	Guide documents active airport and en-route events. Explicit cancellation and replay not established. (nasstatus-alpha.faa.gov)	Keep source update distinct from event and display time. Durable program IDs not verified.	Does each GS record preserve scope, expected end, and source provenance?	Operator source-policy owner and adapter maintainer.
Authorized TFMS Flow Information	Registration and applicable agreement required.	Evaluate definitions, amendments, cancellations, and recovery in the contracted service. Current payload and recovery need verification.	Confirm current identifier namespace, revision ordering, and time semantics in the service contract.	Is a program's termination explicit, and can current state be reconstructed?	Agreement owner, messaging owner, and OCC business owner.
Contracted vendor GS/GDP service	Contract must establish covered product, permitted use, and downstream rights. API families may have different terms. (developer.cirium.com)	Require demonstrated program events, not only individual-flight delays or cancellations.	Ask for source timestamps and authoritative IDs alongside vendor timestamps.	Which exact endpoint supplies GS/GDP definitions, scope, changes, and cancellations?	Vendor support plus operator procurement and data owners.
Public cloud SWIM distribution	FAA's stated SCDS purpose is non-operational; intended OCC use must be assessed against that restriction. (www.faa.gov)	Public data access is not an automatic operational-source approval.	Evaluate the specific product and interface.	Is this distribution route permitted for the proposed purpose?	Operator agreement and compliance owner.

The matrix favors a **requirements-first decision**. A public overview may be sufficient for supplementary awareness, while reconciliation and replay require more than a list of current events. GroundStop.app's explicit use exclusion demonstrates why attractive coverage cannot substitute for permission. (www.groundstop.app)

For location mapping, the **International Air Transport Association (IATA)** provides an official code search, and its identifiers also cover cities and metropolitan areas. (www.iata.org) (www.iata.org) Hypertext Transfer Protocol (HTTP) caching freshness concerns transport responses rather than the operational age of their underlying events. (www.rfc-editor.org)

Table 2 proposes an acceptance contract for any selected adapter. These are recommended application fields and tests, not assertions that each source publishes them.

Requirement	Proposed acceptance test	Evidence that motivates the test
Event class	Keep GS, GDP, closure, and individual-flight delay separate.	GDPs assign EDCTs; flight-status products provide a different timing model. (nbaa.org) (www.oag.com)

Requirement	Proposed acceptance test	Evidence that motivates the test
Planning state	Preserve possible, probable, proposed, and active labels without converting proposals into active events.	NBAA distinguishes a proposed GDP from implementation. (nbaa.org)
Program scope	Retain affected origin facilities, geographical criteria, and exclusions as available.	NBAA describes distance-based scope; GroundStop.app documents departure-facility scope. (nbaa.org) (www.groundstop.app)
Facility identity	Store the source identifier and its namespace alongside the normalized location.	SkyLink distinguishes an airspace facility from an airport code. (skylinkapi.com)
Airport mapping	Test city codes, airport codes, and ambiguous identifiers.	IATA also assigns city/metropolitan codes and provides an official code-search service. (www.iata.org) (www.iata.org)
Temporal meaning	Keep expected end, next review, cancellation time, source update, and receipt separately; normalize full dates and offsets. (www.rfc-editor.org)	GS review time is not EDCT; the National Aeronautics and Space Administration (NASA) documents absent end times in its separate TMI service. (nbaa.org) (www.nasa.gov)
Source age	Record source timestamp, display timestamp, clock status, and missing-time behavior.	The National Institute of Standards and Technology (NIST) identifies network stability and reciprocity as important to experienced time accuracy; its time.gov explanation describes estimated network-delay correction. (www.nist.gov) (www.nist.gov)
Transport freshness	Record cache metadata without interpreting HTTP age as operational event age.	HTTP caching freshness applies to cache operation. (www.rfc-editor.org)
Recovery	Reconcile a fresh valid state against retained observations without inventing cancellation.	A timestamped or enhanced data product still requires a lifecycle contract. (developer.cirium.com)
Source filtering	Record every enabled and excluded input source.	AirNav documents customer-selectable source inputs. (airnavsystems.com)

The contract prevents **false equivalence** between named data fields. IATA's commercial identifiers and flight-operational location codes have different purposes; a mapping should preserve the original namespace rather than prepend characters automatically. (www.iata.org) The proposed acceptance contract should also log changes to source configuration.

Performance and Benchmarks

There is no independently measured, comparable GS delivery-latency benchmark in the fetched evidence. The available statements concern different quantities: application refresh, request-time refresh, cache policy, flight-data availability windows, and message transport. Ranking them as “fastest FAA ground stop API” would require measurements that this research did not obtain.

Advertised freshness is still useful when accurately labeled. GroundStop.app says its JSON information is updated every minute; SkyLink says current programs are refreshed on each request. (www.groundstop.app) (skylinkapi.com) Neither establishes the elapsed time from an authoritative program change to a particular

OCC display. OAG's near-real-time wording concerns flight-status gate times, delays, and cancellations. (www.oag.com) Its meaning should not be generalized to GS cancellation delivery.

History is equally easy to misinterpret. FlightAware describes historical flight data from January 1, 2011 onward. That does not establish a retained ground-stop program archive. (www.flightaware.com) A replay requirement should request the program's original definition, changes, source identifiers, termination, and receipt sequence. Cirium's description of fused and validated aviation data also does not, by itself, define those retention semantics. (developer.cirium.com)

A meaningful evaluation should separate:

- **Source delay:** Time between the source's documented change and publication.
- **Transport delay:** Time between publication and consumer receipt.
- **Processing delay:** Time spent validating, mapping, and persisting.
- **Display delay:** Time before the user's view updates.
- **Coverage:** Whether the applicable program and scope were included.
- **Recovery quality:** Whether reconnecting reproduces a defensible current state.
- **Clock uncertainty:** Whether timestamp differences are meaningful.
- **Semantic correctness:** Whether the displayed state matches the source contract.

These are proposed measurement dimensions. A controlled pilot should retain payloads and clock observations, with storage permissions established first. Cirium's varying API licenses illustrate why retention cannot be assumed from technical accessibility. (developer.cirium.com) When source publication time is unavailable, report the measured receipt-to-display interval and label the missing upstream interval.

NIST's time.gov explanation notes that its running clock depends on the local computer oscillator after the initial timestamp, another reason to monitor clock health. (www.nist.gov)

Cached success also needs careful handling. Request for Comments (RFC) 9111, the HTTP caching standard, distinguishes cache freshness from the underlying information's meaning; a successful HTTP response does not prove that the producer has generated new operational data. (www.rfc-editor.org) (www.rfc-editor.org) The operator should see that limitation in the dashboard and in any performance report.

Data Analysis and Evidence

The quantitative evidence supports **measurement design**, not an operational cutoff. The following figures refer to different products and should not be placed on a single latency ranking:

- **One minute:** The NAS Status guide dated September 6, 2022 documents application updates every minute. This is historical application documentation, not a verified 2026 delivery guarantee. (nasstatus-alpha.faa.gov)
- **Five minutes:** The separately fetched FAA Operational Information System summary says its page refreshes every five minutes. This concerns that page, not an inferred TFMS or XML cadence. (www.fly.faa.gov)
- **One minute:** GroundStop.app describes its own JSON update interval in those terms. Its separate operational-use exclusion continues to apply. (www.groundstop.app) (www.groundstop.app)

- **Two to five minutes:** SkyLink advises against caching longer than that range. This is vendor integration guidance, not an operator-authorized stale-data threshold. (skylinkapi.com)
- **Forty-eight hours before departure and twenty-four hours after arrival:** OAG describes that flight-status tracking window. It measures coverage around a flight, not TMI history retention. (www.oag.com)
- **Next operations day around noon Eastern:** NASA documents that availability for a separate TMI Summary report service. It is an example of a retrospective report, not a live FAA ground-stop feed promise. (www.nasa.gov)

FAA's SWIM questions and answers page also states there is currently no data charge while interface-development costs belong to the consumer. This is the FAA's live wording retrieved October 15, 2026, not a total-cost estimate or a dated vendor quote. (www.faa.gov) The cost comparison should therefore include permitted access, integration, schema maintenance, monitoring, support, retention, and recovery testing. Support and integration obligations should be specified alongside those costs.

Feed Age Calculation (Hypothetical Example)

Assume the source update is **2026-10-10T14:05:00Z**, and the display clock reads **2026-10-10T14:12:30Z**. The illustrative calculation is:

Feed age = display time minus source update time = 00:07:30, or **seven minutes and thirty seconds**.

Both timestamps and the result are invented for this example. They are not observed latency, and the interval does not define when a dispatcher should act. RFC 3339 specifies date-time syntax and describes the Z suffix as a zero UTC offset. (www.rfc-editor.org) (www.rfc-editor.org) Store full dates and explicit offsets so the same calculation remains interpretable across midnight.

The value measures age since the represented source update, not necessarily time since the program was created or amended. If an intermediary updates its timestamp without receiving a new source event, the display needs both provenance and the separate upstream timestamp. NASA's distinct next-day report schedule illustrates why a dataset can be accurately timestamped yet intended for retrospective analysis. (www.nasa.gov)

HTTP Age is another quantity. RFC 9111 defines it in seconds since response generation or validation and computes current age using corrected initial age plus residence time. It should not replace an event's source-update timestamp. (www.rfc-editor.org) (www.rfc-editor.org) Likewise, clock precision is not guaranteed clock accuracy: NIST describes the effect of the network path, and its time.gov explanation uses an estimated half-round-trip delay. (www.nist.gov) (www.nist.gov)

When clocks disagree or a source timestamp is missing, display **age unavailable** or **clock uncertainty** rather than a confident age. Normalize timestamps before sorting; RFC 3339's conditions for straightforward string ordering include consistent timezone and fractional-second representation. (www.rfc-editor.org) This proposed behavior preserves uncertainty instead of silently converting it into apparent freshness.

Illustrative Ground Stop Program Lifecycle

Program Lifecycle (Hypothetical Example)

Consider a fictional destination, **Airport A**, served by an operator with departures from multiple origin facilities. The following sequence is illustrative. It is not a report of an FAA event, an air traffic control procedure, or a claim that either interface publishes the named application states.

Table 3 shows how the dashboard could retain separate observations through the lifecycle.

Illustrative observation	Proposed display state	Evidence to retain	Interpretation to avoid
A planning advisory says a GS is possible.	Possible, with a planning-source label.	Advisory text, issue time, destination, and planning window.	Calling a possible initiative active.
An active GS definition is received.	Active, with applicable scope.	Source identity, program type, timestamps, origins/facilities, and advisory reference.	Assuming every flight to Airport A is captured.
A revised definition extends the expected end.	Active, amended; preserve the previous observation.	Revision evidence and receipt order as supported by the selected service.	Treating expected end as a departure clearance.
The event is absent from a valid public snapshot.	No longer observed; verification required if policy requires confirmation.	Both snapshots and their source/receipt times.	Inventing an explicit cancellation message.
A permitted service supplies a documented cancellation.	Cancelled, with source evidence.	Cancellation record and linkage to the earlier program.	Cancelling individual flights automatically.
The feed cannot be validated.	Source unavailable or stale under operator policy.	Retrieval error, last valid payload, and last source update.	Showing a reassuring empty list.

The first transition depends on the distinction between a proposed and implemented program, while the scope decision depends on which flights meet the program criteria. (nbaa.org) (nbaa.org) Subsequent transitions require a documented source contract. Historical TFMS material supports the existence of changed and cancelled initiatives, but this example does not substitute for the current payload definition. (www.faa.gov)

An expected end must stay separate from confirmation. NBAA warns that GS update time is not EDCT; NASA's separate TMI service documents a null end-time representation. Neither supports treating a missing or elapsed end as authorization to depart. (nbaa.org) (www.nasa.gov)

If an interruption occurs during a change, the system should preserve the last valid observation, identify its age, and reconcile against the next verified state according to operator policy. Reconciliation is a proposed software behavior, not a documented guarantee of every vendor. The selected contract should identify the support route and the state that will be delivered after reconnection.

Implications and Future Directions

Stale-Feed Behavior and Ownership

An OCC source policy should state who owns approval of the source, interpretation of fields, escalation, and fallback. The regulations fetched here establish operational-control responsibility and specified manual or personnel requirements; they do not prescribe a particular public XML polling interval or vendor selection. (www.ecfr.gov) (www.ecfr.gov) Any acceptance threshold remains an operator decision within its applicable procedures.

The adapter's behavior should be explicit:

- **Retain evidence:** Preserve the last valid observation where rights allow.
- **Show uncertainty:** Display source time, age, and the current availability state.
- **Separate clocks:** Keep source, receipt, processing, and display timestamps.
- **Reject ambiguity:** Quarantine malformed records or unmapped identifiers.
- **Reconcile carefully:** Treat disappearance according to documented semantics.
- **Route escalation:** Name the person or service responsible for resolution.
- **Prevent silent substitution:** Label every fallback source and its scope.
- **Restore deliberately:** Require valid data before clearing an outage indication.

These are proposed controls. HTTP's must-revalidate directive restricts reuse of stale cached responses until successful validation; an application should also respect the actual server's caching instructions. (www.rfc-editor.org) A missing end time deserves explicit handling, as NASA's documented null representation demonstrates. (www.nasa.gov) Airport normalization should retain a review path through an authoritative identifier resource such as IATA's code search. (www.iata.org)

Product Versus Custom Adapter

The source decision should precede the build decision. A packaged operations tool is the category to evaluate when the operator needs a complete supported workflow. A contracted data vendor is appropriate when it can establish the required event coverage, rights, and service obligations. Cirium's product-specific licensing is an example of a contract dimension, not a universal entitlement. (developer.cirium.com)

A custom adapter is appropriate when the approved source and operations system already exist, but the operator needs a unified event model, reconciliation, mappings, or routing. LANDING.AERO describes integration of disparate sources and custom operational dashboards in its own development scope. That places its perspective here, as an integration provider, without making it a competing feed or claiming a certified dispatch product. (www.landing.aero) No named vendor relationship or performance result is implied.

The boundary matters when evaluating source categories. AirNav's selectable inputs and Aireon's surveillance scope can support different information needs, but neither fetched description establishes a GS lifecycle service. (airnavsystems.com) (aireon.com) A common protocol or an FAA input should not shortcut event-level verification.

FAA identifies **Flow Management Data and Services (FMDS)** as the replacement for legacy TFMS. The documented direction warrants planning for interface change, but it does not establish that a replacement ground-stop feed is presently available to this operator. (www.faa.gov) Keep source-specific mappings behind a versioned adapter, retain sample-based acceptance checks, and reconfirm entitlements during migration.

Conclusion

The useful answer to “FAA ground stop data” begins with the required operational picture. Public NAS Status XML can be evaluated for supplementary current-event awareness. A richer, authorized Flow Information service or a contracted vendor deserves consideration when the application must account for program definitions, amendments, cancellations, support, and reconstruction after interruption.

The decisive distinctions are **active versus planned**, **GS versus GDP versus closure**, **airport versus facility**, and **expected end versus confirmed termination**. A GS's review time is not EDCT, and a GDP's allocation model is different. (nbaa.org) (nbaa.org) Those distinctions belong in the data model, acceptance tests, and user interface.

Selection should remain conditional on evidence. Obtain the current schema, representative event records, permitted-use terms, timestamp definitions, and recovery procedure. Check vendor documentation at the actual contracted-product level. An operational-use exclusion cannot be overcome by attractive features, while a broad flight-data product does not automatically establish ground-stop history or lifecycle coverage. (www.groundstop.app) (www.flightaware.com)

Finally, decide who owns the remaining gap. An existing operations product can be assessed for workflow needs; a data vendor can be assessed for permitted information and support; a custom bridge can be assessed for integration and reconciliation. Each choice should preserve source provenance and visible uncertainty. The result should be a reviewable situational-awareness system whose behavior is defined by documented source semantics and operator policy, rather than by assumptions about an empty list, a plausible timestamp, or an elapsed forecast end.

Source links

Links cited in this article, in order of first appearance. Full addresses are provided for readers using extracted text.

1. https://nasstatus-alpha.faa.gov/static/media/NASStatusUserGuide.cccc6d48.pdf
2. https://www.faa.gov/media/19436
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