ASCENT
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ARIS/SL® schedule loader

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Load and store SSIM flight-schedule information

The ARIS/SL schedule loader enables you to load flight-schedule information from a source file and to save the information in the ARIS/SmartBase® database or in the ARIS/SA® slot allocator. The ARIS/SL schedule loader accepts airline-wide schedule files in the format specified in Chapter 7 and airport-centric schedule files in the format specified in Chapter 6 of the IATA Standard Schedules Information Manual (SSIM). The Ascent WorkZone workforce-management system, the SmartAirline Operations Center solution, and the SmartAirport Operations Center solution all rely on accurate flight schedule files loaded and stored in the ARIS/SmartBase database by the ARIS/SL schedule loader.

The ARIS/SL schedule loader provides simple intuitive screens that guide you through the process of choosing a schedule file to import, choosing where to store the schedule file, loading and naming the schedule file, selecting the airport(s) for which the schedule applies, adding probable turn information for the selected airport(s) to the schedule file, and saving the schedule file in the ARIS/SmartBase database. The screens simplify information entry by providing lists of items, in the correct format, to choose from. The summary at the top of each screen enables you to track your progress, and advice blocks display brief explanations about the screen you are viewing.

What the ARIS/SL schedule loader enables you to do

With the ARIS/SL schedule loader, you can:

- Load and save airline-wide flight schedule files in the IATA Standard Schedules Information Manual (SSIM) Chapter 7 message format in the ARIS/SmartBase database
- Load and save airport-centric Schedule Clearance Requests (SCR) and Standard Movement Advice (SMA) messages marked with action code N in the IATA Standard Schedules Information Manual Chapter 6 message format in the ARIS/SmartBase database

- Load and save airport-centric Schedule Clearance Requests (SCR) and Standard Movement Advice (SMA) messages marked with action codes C, D, E, N, and R in the IATA Standard Schedules Information Manual Chapter 6 message format in the ARIS/SA slot allocator

- View problems in flight schedule files, such as duplicate flight legs operating on the same day and flight records with start dates and/or end dates outside the schedule period, that may prevent the system from loading the flight schedules and that should be fixed before you complete the schedule-loading process

- View problems in flight schedule files, such as airline codes, aircraft type or subtype codes, origin codes, and destination codes that are not defined in the ARIS/SmartBase database, that do not prevent the system from loading the flight schedule files, and that should be fixed so the Ascent Technology resource-allocation products operate correctly

- Select the airport(s) for which the system loads schedule records, and then generate probable turn information for the selected airport(s)

- Save the flight schedule file for the selected airport(s) by appending the file to an existing flight schedule, or by overwriting an existing flight schedule, or by creating a new flight schedule

After you load and save a flight schedule in the ARIS/SmartBase database, you can use the Schedules tool in the ARIS/SB® schedule builder to view and manage the flight schedule. When you load and save SCR and SMA messages, you use the ARIS/SA slot allocator, which works with the ARIS/CA® capacity analyzer, to view and manage the messages.

How the ARIS/SL schedule loader produces accurate schedules

The ARIS/SL schedule loader checks both the syntax and the data validity of the flight records in the source file. The syntax, which is the layout of the fields in each line of the schedule file, controls how the ARIS/SL schedule loader interprets the text of the schedule and translates it into the elements of the flight schedule, such as the flight numbers, start times, and end times. When the syntax of a line is not valid, the system may misinterpret the text elements and produce a faulty schedule.

Data-validity checking ensures that the translated text is meaningful, given the airport, airline, and aircraft type reference information defined in the ARIS/SmartBase database; the framework of the schedule file, such as the season and the type of schedule file; and relationships between flights, such as duplicate flight numbers.

The ARIS/SL schedule loader performs syntax checking as it processes each line of the source file because syntax errors can adversely affect the system's interpretation of the file. The ARIS/SL schedule loader performs data validity checking separately, usually after the system has read all the lines in the source file. Representative validity tests include:

- **Aircraft-type codes.** The system checks all aircraft type codes in the source file against aircraft type codes defined in the ARIS/SmartBase database. When an aircraft type code in the source file is not defined in the ARIS/SmartBase database, the system displays a description of the problem.

- **Airline codes.** The system checks all airline codes in the source file against airline codes defined in the ARIS/SmartBase database. When an airline code in the source file is not defined in the ARIS/SmartBase database, the system displays a

description of the problem. For records in SSIM Chapter 7 format, the airline code problem is reported for both the arrival flight and the departure flight. (The system processes records in SSIM Chapter 6 format later.)

- **Airport codes.** The system checks all airport codes in the source file against airport codes defined in the ARIS/SmartBase database. When an airport code in the source file is not defined in the ARIS/SmartBase database, the system displays a description of the problem.

- **Flight dates.** The system displays a description of the problem when the start date occurs after the end date; when the start date occurs before the season start date; or when the end date occurs after the season end date. In addition, start date must be one of the operating days specified by the days-of-operation field, and the end date must be one of the operating days specified by the days-of-operation field.

- **Flight times.** The system displays a description of the problem for a SSIM Chapter 6 format turn if the departure time is before the arrival time and the over-midnight indicator is missing or zero. Additionally, the over-midnight indicator is required to be in the range of 1 to 6.

- **Service-type codes.** The system checks each service-type code in a flight leg for validity. If it is not valid, the system screen displays a description of the problem.

When the system processes SSIM chapter 7 format records, the system displays descriptions of problems for all flights in the schedule file because the system performs data validity tests before you select the turn airport(s).

If you store the schedule file in the ARIS/SA slot allocator Inbox/Outbox, the system stores data-validity problems in the Inbox with the schedule. You then have the ability to modify the request to correct the problems.

When you install the system, you determine which types of problems in a source file are serious enough to prevent the ARIS/SL schedule loader from storing the schedule and which types of problems are less serious. When you encounter serious problems, you must correct them in the source file and reload the corrected source file before you can save the schedule. When you encounter less serious problems, you can decide to correct the problems before or after you store the flight schedule in the ARIS/SmartBase database.

How the ARIS/SL schedule loader links arrival flights and departure flights

The word *turn* refers to how an arrival flight links to a departure flight at an airport. For example, an arrival flight may be described as turning, or *linking*, to a departure flight. Typically, the source file defines some, but not all, turns. Intelligent algorithms in the ARIS/SL schedule loader generate probable turns for a selected airport, which enables you to work with a flight schedule prior to the time you receive actual turn information from an airline.

Probable turns are the system's best guesses about turns because the ARIS/SL schedule loader does not split original schedule records into different date ranges to accommodate turns. When the ARIS/SL schedule loader creates a probable turn, the turn is valid for all days of operation that apply on either side of the turn. In contrast, a flight schedule that contains actual turn information splits flight records into different date ranges when linking arrival flights and departure flights to accommodate turns.

The ARIS/SL schedule loader creates four types of probable turns: Explicit, Onward Flight, Transit, and Unrolled. At each step of the turn-creation process, the system considers only the effective dates of flights that are not yet linked.

- An *Explicit Turn* is a turn already defined in the flight schedule
- An *Onward Flight Turn* is identified by a field in a flight record in the flight schedule that contains the flight designator of the onward flight
- A *Transit Turn* links arrival flights and departure flights at the turn airport that have the same flight number and aircraft type
- An *Unrolled Turn* occurs when unlinked flights remain at the end of the first three steps and the system matches arrival flights with departure flights. For each departure flight, the system finds the most recent unmatched arrival flight that obeys rules for short minimum ground times.
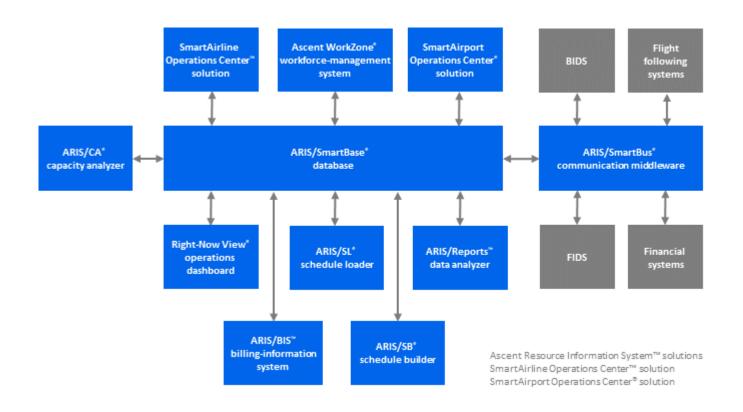
Representative features

Accepts SSIM Chapter 6 and Chapter 7 message formats. The ARIS/SL schedule loader handles airline-wide flight schedule files in the IATA Standard Schedules Information Manual (SSIM) Chapter 7 message format, and New Schedule Clearance Requests marked with action code N in the IATA Schedule Clearance Request (SCR) message format and Standard Movement Advice (SMA) message format (SSIM Chapter 6). It handles airport-centric Schedule Clearance Requests (SCR) and Standard Movement Advice (SMA) messages marked with action codes C, D, E, N, and R in the SSIM Chapter 6 message format.

Checks flight records for syntax and data-validity problems. The ARIS/SL schedule loader checks both the syntax and the data validity of the flight records in the source file and displays the problems it finds. When your organization installs the system, it determines which types of problems in a source file are serious enough to prevent the ARIS/SL schedule loader from storing the schedule and which types of problems are less serious, leaving it to you to decide to correct identified problems before or after you store the flight schedule in the ARIS/SmartBase database.

Links arrival and departure flights to create probable turns in the absence of actual turn information. The ARIS/SL schedule loader enables you to create flight schedules prior to the time you receive actual turn information from airlines. Sophisticated algorithms create probable turns, such as by linking identical flight numbers and aircraft types and by matching arrival flights and departure flights that obey rules for short minimum ground times.

Provides an intuitive, easy-to-use graphical interface. The ARIS/SL schedule loader's intuitive screens take you from one step to the next quickly and intelligently. For example, when the system requires you to enter information in a particular format, it provides a list of correctly-formatted items from which to choose. When you ask the ARIS/SL schedule loader to do something it cannot do or if you do not give it all the information it needs, the system displays guidance messages that tell you what you need to do to recover from or avoid the problem. You can display the ARIS/SL Schedule Loader User Guide in a window that you can view at the same time you view the screen.

Collaborative decision-making. The ARIS/SL schedule loader supports team decision-making, ensuring all users share a consistent current view of operations. You can discuss possible solutions with other users before you commit to changes

Web-enabled for cost-effective rapid and wide deployment. You may gain access to the ARIS/SL schedule loader through Ascent's From Touchdown to Takeoff® cloud-hosted service, a secure, highly-available, and readily-expandable platform. When you subscribe to the service, you can gain access Ascent's entire suite of products, including the ARIS/GateView real-time display, using a standard browser directly from your network without any need to install, maintain, and support on-premise hardware and software. We can readily adjust available computing power to meet your organization's changing needs, and you can easily expand your solution to accommodate additional users and to manage additional resources, facilities, and locations.

Ascent Resource Information System™ solutions
SmartAirline Operations Center™ solution
SmartAirport Operations Center® solution

Ways we can help you

Advisory and consulting services. We provide unbiased advice about resource allocation, optimization, planning, scheduling, management, and deployment methodologies; develop cost-benefit analyses; analyze business processes; manage projects; gather and document technical requirements; develop functional specifications; and specify hardware, software, and devices.

Project-management services. Our project-management team works closely with you, following our time-proven delivery methodology, and uses face-to-face meetings, teleconferences, web conferences, and email exchanges to keep you informed every step of the way. We believe careful project management is the key to successful on-time and on-budget deliveries of Ascent Technology's SmartAirline Operations Center solution and SmartAirport Operations Center solution.

Knowledge-engineering services. Knowledge engineering is the process of identifying your business knowledge—the business rules, policies, procedures, preferences, and requirements that guide the way your organization operates—and then codifying your business knowledge in the knowledge base at the heart of the SmartAirline Operations Center solution and SmartAirport Operations Center solution. The business knowledge in the knowledge base determines how the solutions behave. Our knowledge engineers work with you to gather and enter the business knowledge that enables the solution to behave exactly the way you want it to.

Implementation, integration, and installation services. Our implementation team provides system integration and testing services; develops product extensions, enhancements, and connectivity software for importing data to and exporting data from external systems; and creates reports. Our implementation team is also responsible for setting up an environment, customized to meet your organization's needs, and monitoring its performance, in our secure hosting center.

Training services. We can provide a wide range of user, administrator, trainer, and refresher training classes at your location, at our Boston, MA, headquarters, and remotely over the web. We also provide operational training services remotely when you begin to use the SmartAirline Operations Center solution or the SmartAirport Operations Center solution in production.

Maintenance and support services. We offer premium support services for the SmartAirline Operations Center solution and the SmartAirport Operations Center solution around the clock. We provide comprehensive remote user support services via telephone, email, web conferences, and Internet, as well as software maintenance, such as product updates, patches, and releases. Our customer support community portal and ticket system enable you to ask questions and receive responses, request service, report problems, and track issues day and night.

Ascent Technology's From Touchdown to Takeoff Cloud-Hosted Service

You gain access to the Ascent Resource Information System solutions in the SmartAirline Operations Center solution and in the SmartAirport Operations Center solution over the Internet, using a standard web browser.

Ascent Resource Information System solutions SmartAirline Operations Center solution SmartAirport Operations Center solution	From Touchdown to Takeoff cloud-hosted service Browser support: Google Chrome, Microsoft Edge, and Mozilla Firefox Minimum Internet connection speed: 5 Mbps Minimum resolution: Full HD (FHD)
ARIS/AV® aerial-view display	✓
ARIS/BB® baggage-belt allocator	✓
ARIS/BIS™ billing-information system	✓
ARIS/CA® capacity analyzer	✓
ARIS/CI® check-in counter allocator (with ARIS/IQ® queue manager)	✓
ARIS/FW® flight watcher	✓
ARIS/GateView® real-time display	✓
ARIS/GM® gate manager	✓
ARIS/Reports™ data analyzer	✓
ARIS/SB® schedule builder (with ARIS/LegGen® flight-leg generator)	✓
ARIS/SL® schedule loader	✓
ARIS/SmartBase® database (with Resource Editor tools)	✓
ARIS/SmartBus® communication middleware	✓
ARIS/SP® stand planner	✓
Ascent WorkZone® workforce manager	✓
ARIS/WorkModel® workload generator	✓
ARIS/WorkNet® bid and trade manager	✓ *
ARIS/WorkOptimize® work-period generator	✓
ARIS/WorkPlan® work-schedule generator	✓
ARIS/WorkRelay® task and attendance monitor	✓
ARIS/WorkTime® workday manager	✓
Right-Now View® operations dashboard	✓
ARIS/CX® crew-connection analyzer	✓
ARIS/FR® flight-readiness display	✓
ARIS/PX® passenger-connection analyzer	✓
ARIS/TE® tug-equipment assigner	✓
Gate Chart Display™ tool	✓
Stand Assignment Optimizer™ tool	✓

* Minimum requirements: 512 Kbps Internet connection speed and SXGA resolution