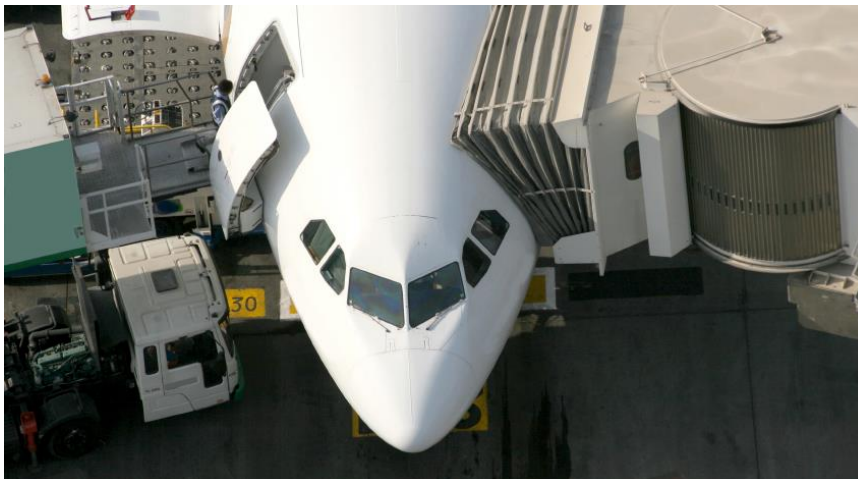


## ARIS/SB<sup>®</sup> schedule builder



### Create, view, modify, and distribute flight-schedule and day-of-operation information

The ARIS/SB schedule builder enables you to create, view, modify, and distribute the flight-schedule and day-of-operation flight-leg information that drives your operations.

#### Manage flight schedules

- Create flight schedules using information entered manually
- Load flight schedules automatically using IATA SSIM Chapter 6 SMA files and Chapter 7-compliant schedule files imported from external systems
- View, analyze, and modify flight-schedule information, keeping the schedule in the original IATA SSIM Chapter 7-compliant format with start and end days, days of operation, and frequency
- Search and sort flight-schedule information by schedule and properties such as airline, aircraft type, and flight number, and then print your results
- Store updated flight-schedule information in the ARIS/SmartBase<sup>®</sup> database, which provides accurate flight-schedule information to coordinated ARIS<sup>®</sup> products and external systems.

#### Unroll flight schedules into day-of-operation flight legs

- Unroll flight-schedule information into individual flight-leg records for each day of the schedule
- Link flight arrivals and departures manually or with the intelligent arrival and departure flight matcher embedded in the ARIS/GM gate-management system
- Identify and correct errors, such as identical flights, in flight schedules
- Revise information for recently created flights to reflect schedule changes with the ARIS/LegGen flight-leg generator
- Create stand plans
- Unroll items related to schedules, such as routine stand maintenance records.

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## Who we are

Since our founding more than 30 years ago by members of the Massachusetts Institute of Technology Artificial Intelligence Laboratory, Ascent Technology has helped organizations deploy costly resources as efficiently, effectively, and economically as possible. Our highly trained and capable team of technologists, problem solvers, and solution designers has broad domain expertise and substantial experience in artificial intelligence, computer science and engineering, system design, mathematical optimization, operations research, and resource optimization, planning, scheduling, and management.

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## Modify day-of-operation flight information

- Search and sort day-of-operation flight-leg information by property, such as airline, aircraft type, origin, and destination
- View day-of-operation flight information
- Update information about events, such as delays, diversions, cancelations, and new service
- Store updated day-of-operation flight information in the ARIS/SmartBase database, where it is readily available to all ARIS products, flight information display systems (FIDS), baggage information display systems (BIDS), and other external systems.

## Ensure accurate and consistent flight-schedule and day-of-operation flight information

The ARIS/SB schedule builder provides an easy-to-use graphical interface for flight-schedule and day-of-operation flight information entry, display, analysis, and distribution. In essence, the ARIS/SB schedule builder is your window into the ARIS/SmartBase database, the secure central database where flight-schedule and day-of-operation flight-leg records are stored. Because the ARIS/SB schedule builder enables you to locate specific records quickly and efficiently, the information you need is never more than a few clicks away, even when your schedules are enormous and your database contains years' of flight records.

You can upload information automatically from different sources and industry-standard formats; the flight schedule is then available for retrieval as consistent records in the IATA Chapter 7 SSIM format. You can browse and query flight schedule, flight leg, and flight information stored in the ARIS/SmartBase database. Preference tabs make it easy to change the way information is presented.

The ARIS/SB schedule builder greatly reduces manual data entry and the accompanying errors. When you do need to enter data manually, the system provides intuitive screens and helpful guidance messages to instruct you. The system alerts you when you make an error, such as when you enter a departure time that is earlier than the arrival time.

The ARIS/SB schedule builder flight-leg generator bridges the gap between long-term flight schedules and day-of-operation flight information, automatically converting rolled-up schedule records into rolled-out flight legs. The system links arrivals and departures automatically, archives old flights, and converts local schedule times to GMT accurately even through daylight savings time changes. Although the flight-leg generator runs silently every night, you can also start the tool manually for planning purposes.

The ARIS/SB schedule builder enables you to manage day-of-operation flight information. For example, to update the record for a flight that has been delayed, you simply select the flight, modify the arrival time, and then click the Save button. In a second or two, the updated information is available to all ARIS® products and to FIDS, BIDS, and other airport and airline systems.



## Schedule planners and operations managers rely on the ARIS/SB schedule builder

Typically, schedule planners use the schedule functionality in the ARIS/SB schedule builder to plan and manage flight schedules that affect operations weeks or months in the future. When you use the Schedules tool, you create flight schedules manually or load flight schedules automatically, often relying on imported data in the IATA SSIM schedule-file format; view, analyze, and modify flight-schedule information; and then distribute flight-schedule information throughout the organization by means of the ARIS/SmartBase database and the ARIS/SmartBus communication middleware.

On the day of operation, operations controllers view, enter, and modify flight information, tracking delays, diversions, and cancelations. Airline and airport staff view and update information about flights for which they are responsible. In addition, airline data feeds continuously update flight information displayed in the screen. Because operational information is dynamic, the ARIS/SB schedule builder acts like a sophisticated flight-information display.

The ARIS/SB schedule builder contains safeguards to prevent data-entry errors that lead to costly resource-planning and allocation mistakes. By providing accurate, consistent, and timely flight-schedule and day-of-operation flight-leg information to people throughout your organization, the ARIS/SB schedule builder improves collaborative decision-making and overall organizational effectiveness.

## Representative features

**Detailed flight-schedule and day-of-operation flight information is available at the click of a button.** The ARIS/SB schedule builder provides an intuitive, easy-to-use graphical interface. An innovative display scheme enables you to organize information by expanding or contracting the amount of detail shown. Contextual menus, help wizards, and fill-in-the-blanks panels simplify manual data entry.

**A single interface manages flight-schedule information.** The ARIS/SB schedule builder enables you to create arrivals, departures, and turns; search flight schedules by airline code, origin, destination, aircraft type, and flight; handle code shares and preferred stand assignments; and print schedules and portions of schedules. It also enables you to enter code-share information and create and modify code-share schedules.

**Automatic conversion of flight-schedule information into day-of-operation flight information.** The ARIS/SB schedule builder analyzes rolled-up flight schedules, unrolls flight schedules into day-of-operation flight legs, and identifies and creates turns. It can unroll flight schedules far into the future and correct unrolled flight schedules when the schedule records change.

**A single interface creates, cancels, diverts, returns, and links flights.** The ARIS/SB schedule builder provides tools to manipulate day-of-operation flight information from a single user interface.

**Up-to-the-minute view of flight schedule and day-of-operation flight information.** The ARIS/SB schedule builder automatically updates information periodically, combining information entered manually with information received from automated feeds, providing timely access to consistent, accurate information throughout your organization.

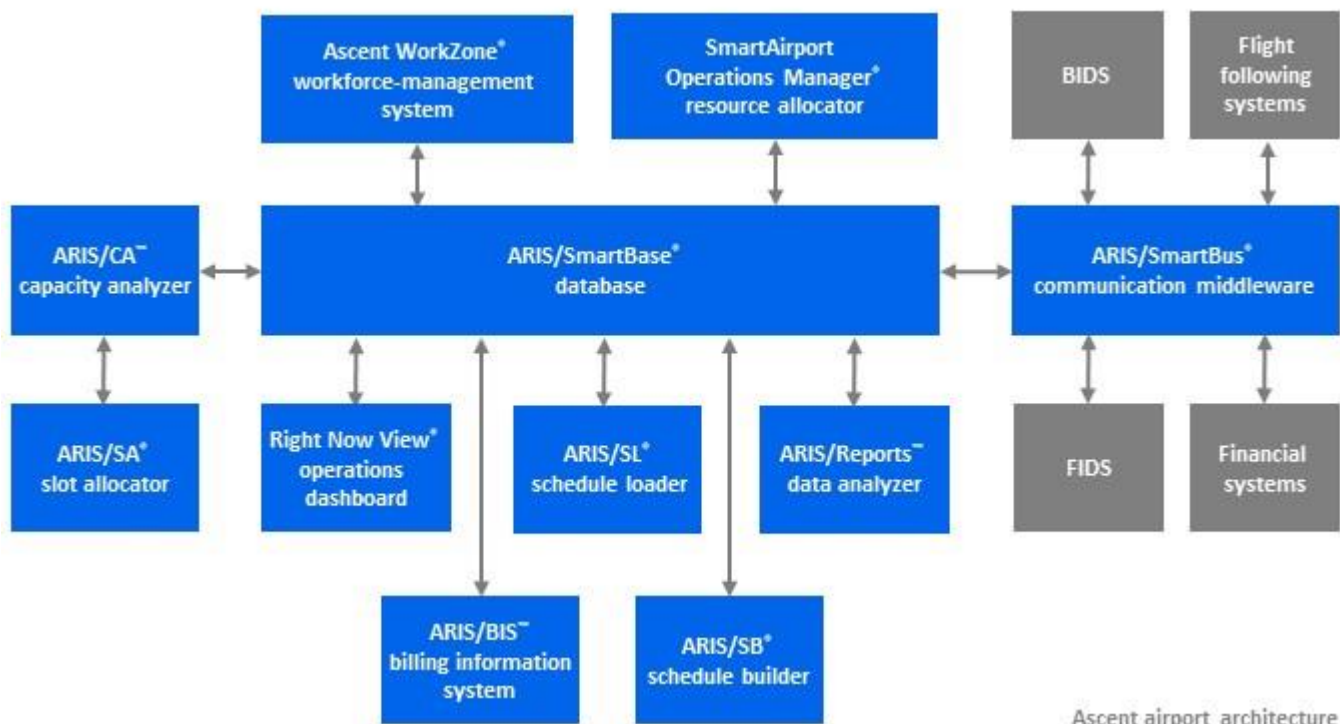
**Graphical display of current operations statistics in real time.** The ARIS/SB schedule builder displays graphs of key information, so you can see the status of your operations at a glance.

**Multi-user access.** Changes made by one user are seen by all other users within a second or two.

**User access control.** You can control which users have access to specific functionality, so each user sees only what is permitted. You can provide filtered views of the ARIS/SB schedule builder to others, while safeguarding your internal business information.

**Customizable user interface.** You can create custom views of information, so the ARIS/SB schedule builder displays the information you want to see the way you want to see it.

**Web-enabled for cost-effective rapid and wide deployment.** You gain access to the ARIS/SB schedule builder using a standard web browser, through secure Internet links and local networks.



Ascent airport architecture

## Reports

The ARIS/SB schedule builder stores information in the ARIS/SmartBase database, which runs on the Oracle® database. We can create reports for you, and you can create your own reports from a synchronized reporting database using Oracle-compatible report-generator tools, without interfering with the integrity or performance of the database.

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### More information

To learn more about how Ascent Technology solutions can help you optimize your resources to greatest advantage and to schedule a demonstration of our products, send email to [sales@ascent.com](mailto:sales@ascent.com) or call our Sales and Marketing department at +1.617.395.4800.

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## 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 SmartAirline Operations Center and SmartAirport Operations Center products, services, and solutions.

**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 SmartAirline Operations Center and SmartAirport Operations Center solutions. 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. The team also configures, installs, and tests hardware, software, and equipment for you when you choose to integrate the SmartAirline Operations Center or SmartAirport Operations Center solutions in your IT environment, and quickly sets up an environment in our hosting center for you when you choose to gain access to the solutions over the web.

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

**Maintenance and support services.** We offer Standard Support Services Monday through Friday during our normal office hours and Premium Support Services around the clock. Both provide comprehensive remote user support services via telephone, email, and Internet, as well as software maintenance, such as product updates, patches, and releases. Our web-enabled support portal enables you to ask questions and receive responses, request service, report problems, and track issues.

## Technology Platform

You can gain access to the SmartAirline Operations Center or SmartAirport Operations Center solutions in two ways: you can integrate the solution into your own IT environment, or you can gain access over the Internet to the solution running on Amazon Web Services (AWS) platform.

Ascent Technology Products	Your own IT environment			Amazon Web Services (AWS) platform
	Server	Client desktop	Web browser	
	Server: Microsoft® Windows® Server™ 2012 or 2016 operating system or Red Hat® Enterprise Linux 7; if virtualized, our solutions are certified to run on VMware® server virtualization products Database: Oracle 12C SE2 Desktop: Windows 7, 8 or 10 with 4GB of RAM Browser: Latest Microsoft Edge, Google Chrome or Mozilla Firefox Minimum internet access for remote support: 512 kbps			Browser: Latest Microsoft Edge, Google Chrome or Mozilla Firefox; Internet connection (1 Mbps or better)
ARIS/AV® aerial-view display	✓		✓	✓
ARIS/AR® aircraft-routing system	✓	✓		
ARIS/SmartBase® database (including Resource Editors)	✓			
ARIS/BB® baggage-belt allocator	✓	✓		✓
ARIS/BIS™ billing information system	✓		✓	✓
ARIS/CI® check-in counter allocator (including ARIS/IQ® queue manager)		✓		✓*
ARIS/CX® crew-connection analyzer			✓	✓
ARIS/GateView® real-time display	✓	✓		✓
ARIS/GM® gate manager		✓*		✓*
Right Now View® operations dashboard	✓		✓	✓
ARIS/PX® passenger-connection analyzer	✓		✓	✓
ARIS/Reports™ data analyzer	✓		✓	✓
ARIS/SB® schedule builder	✓	✓	✓	✓
ARIS/SL® schedule loader	✓		✓	
ARIS/SmartBus® communication middleware	✓			
ARIS/SP® stand planner		✓*		✓*
SmartAirline/SmartAirport Capacity Analyzer strategic planner	✓		✓*	✓*

Ascent WorkZone® workforce management system	✓	✓*	1200x768 minimum resolution for ARIS/WorkNet® bid and trade manager
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\*Minimum display resolution (pixels): 1600 x 1200

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