

## ARIS/PX® passenger-connection analyzer



### Determine how flight delays and cancellations affect connecting passengers

The ARIS/PX passenger-connection analyzer determines how flight-arrival delays and flight cancellations affect passenger connections at an airport. Passenger-connection information is supplied to the ARIS/SmartBase® database from an external system, such as an airline reservation system.

### Representative features

**Scrollable passenger connection matrix.** The ARIS/PX passenger-connection analyzer display is a scrollable matrix, containing as many as 1,000 by 1,000 cells, that displays inbound flights across the horizontal axis and outbound flights down the vertical axis. Each cell of the matrix contains the number of passengers scheduled to connect between the inbound and the outbound flights associated with the cell. The matrix format provides an immediate assessment of connection information for thousands of possible connections at a time. The scrolling capability makes it possible to maintain a cell size that is easily readable.

**Flight information.** Actual or estimated flight arrival and departure times are displayed along the edges of the matrix, enabling you to assess the extent of the delays. When you place your mouse on a flight, the ARIS/PX passenger-connection analyzer indicates the original schedule time. Flight status indicators provide information about the flight, such as inbound, in range, or taxiing to a position.

**Accurate connection time model.** When the ARIS/PX passenger-connection analyzer is installed, models of times required for passengers to check in at each gate, to deplane each aircraft type, and to connect from each parking position to every other parking position are entered into the ARIS/SmartBase database.

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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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**Alert indicator.** Using models, the ARIS/PX passenger-connection analyzer computes the most reasonable connection times between flights and automatically selects and displays on each cell in the matrix one of four alert levels: no alert, difficult connection, unlikely to connect, and impossible to connect. Because each alert is associated with a different color, you can rapidly identify possible problems and select the best course of action.

**Connection detail information.** When you place the mouse on connection cells in the matrix, the ARIS/PX passenger-connection analyzer displays information, such as the number of connecting passengers in each class, the time required for the connection, and the actual time available to make the connection.

**Aircraft turn indicator.** The ARIS/PX passenger-connection analyzer displays an indicator when an aircraft makes the turn from an inbound to an outbound flight. Aircraft turn indicators may be used to identify departure times that are overly optimistic and that, if readjusted correctly, could reduce connection problems.

**Automatic sort and update.** The ARIS/PX passenger-connection analyzer automatically places the most difficult connections in the upper left corner of the display. The system updates cells and flight information automatically as the ARIS/SmartBase database receives new information.

**Time-range control.** Rather than scrolling through a large matrix, you can use time-range control functions to select a specific time range for arrivals or for departures. You can view connections within each bank of flights. Because connections within the same bank of flights usually represent 95% of all connections, the bank-selection system provides a convenient way to partition the matrix.

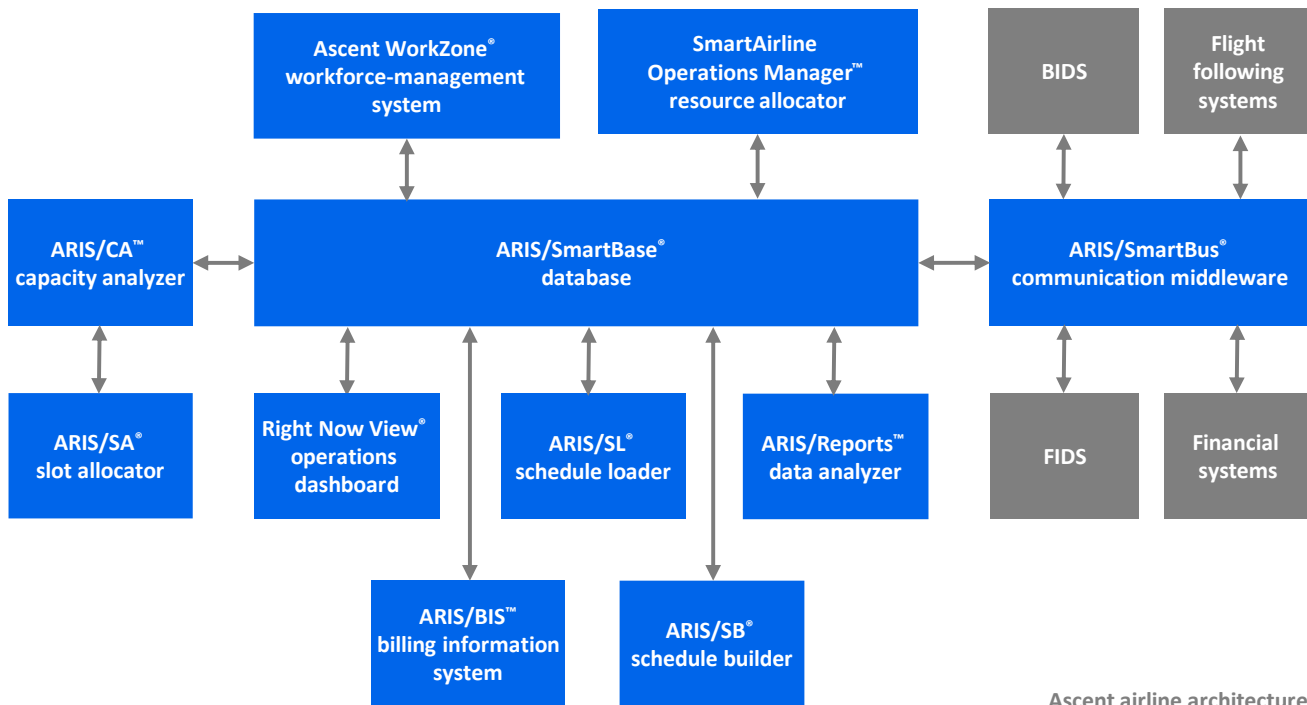
**Report generation.** The ARIS/PX passenger-connection analyzer produces hardcopy output of sections of the connection matrix. The printout, which can cover any time period, is generated by a separate program that accesses the ARIS/SmartBase database directly. Users at gates and in arrival halls can print their own connection reports.

**Generalized database access.** All information processed by the ARIS/PX passenger-connection analyzer is stored in the ARIS/SmartBase database, where it can be used by other ARIS® products or by external systems. You can create a report that shows, for example, the average actual connection times compared with the scheduled connection times and the number of missed connections.

**Worldwide capability.** The ARIS/PX passenger-connection analyzer can store passenger connection information on a worldwide basis. By monitoring passenger connections on a worldwide basis, you can make more informed decisions regarding flight delays and reroutes.

**Integration with the ARIS/CX® crew-connection analyzer.** When the ARIS/CX crew-connection analyzer is also running, crew-connection information is integrated with the passenger-connection matrix. By sharing the matrix with the ARIS/CX crew-connection analyzer, a single display can monitor both passenger and crew connections.





Ascent airline architecture

## Reports

You can print hardcopies of portions of the ARIS/PX passenger-connection analyzer matrix.

The ARIS/PX passenger-connection analyzer 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 ARIS/SmartBase database.

## 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.

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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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**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 in Cambridge, MA, 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. We provide a web-enabled support portal that 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		✓		✓*
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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