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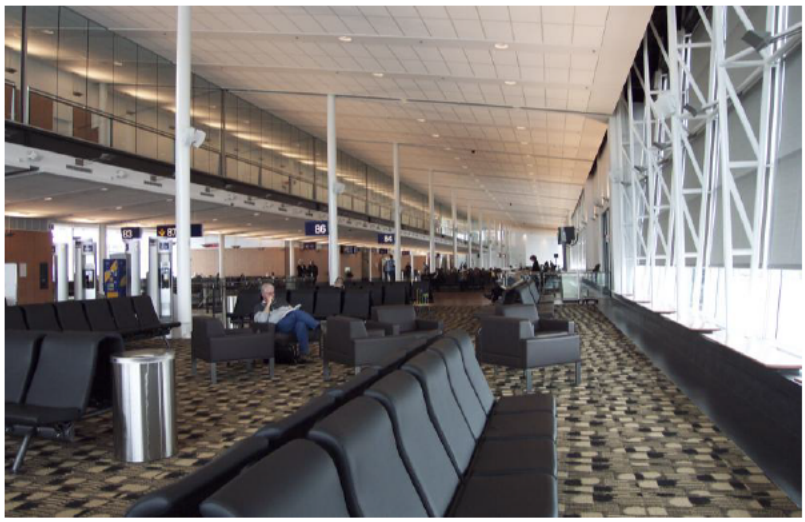

ARIS/SmartBus® communication middleware

Connects ARIS® products to external systems

The ARIS/SmartBus communication middleware is the technology layer surrounding the ARIS/SmartBase® database that enables information exchange between the ARIS/SmartBase database and external systems and between the ARIS/SmartBase database and external devices, such as tablets, smart phones, pagers, dispatch devices, and clock-in and clock-out devices.

The ARIS/SmartBus communication middleware supports multiple connections, enabling information to flow between the ARIS/SmartBase database and multiple external systems simultaneously. When you rely on the ARIS/SmartBus communication middleware to handle your information flow, you can disseminate critical business knowledge throughout your organization while you reduce the cost of interface development, deployment, and maintenance.

Increases organizational efficiency and effectiveness

In many organizations, the same information often appears in many different computer systems, and each system often represents the same information differently, preventing automatic information exchange. Consequently, you can waste valuable time entering and re-entering information manually and creating inefficient workarounds to compensate for systems that cannot talk to one another. Considering manual data-entry error, unproductive time, and lost opportunity, the cost can be substantial.

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The ARIS/SmartBus communication middleware increases organizational efficiency and effectiveness by enabling information to flow between the ARIS/SmartBase database and external systems rapidly, reliably, and accurately. The ARIS/SmartBus communication middleware:

- Integrates information stored in the ARIS/SmartBase database with external systems, such as flight-following systems, accounting systems, and HR systems, as well as sources of real-time information
- Monitors and controls the information flow between the ARIS/SmartBase database and external systems
- Provides a redundant communication infrastructure that minimizes the effect of server and network failures
- Provides a near real-time view of the status of your organization's activities

Using the ARIS/SmartBus communication middleware greatly reduces the time, effort, and cost involved to integrate enterprise systems.

Relies on industry-standard connectivity protocols

We configure the ARIS/SmartBus communication middleware to meet your requirements, assembling the most appropriate set of modules from the ARIS/SmartBus communication middleware toolkit. The two most typical configurations involve:

- Table-to-table interfaces that transfer information between the ARIS/SmartBase database and an external Oracle® database
- Messaging and web-enabled interfaces

We interface each system that will exchange information with other systems with an ARIS/SmartBus communication middleware adapter, which ensures the proper transfer of information from one system to all other interfaced systems. Information can then flow to one, some, or all the systems. Some information may be routed to the ARIS/SmartBase database for archival storage, while other information may be routed to bypass the ARIS/SmartBase database entirely. The ARIS/SmartBus communication middleware eliminates the need to build individual interfaces between each system and other systems that require its information. Instead, you build an interface between each system and the ARIS/SmartBus communication middleware, significantly reducing the number of interfaces to build and maintain.

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Representative features

Lowers integration costs. Industry-standard connectivity protocols and built-in adapters reduce the need to develop costly customized interfaces between individual systems.

Coordinates business knowledge. The ARIS/SmartBus communication middleware enables information to flow between the ARIS/SmartBase database and external systems rapidly, reliably, and accurately so that users throughout the organization view consistent information.

Tolerates outages. If an external system is unable to receive message updates, for example, because of a network outage, the ARIS/SmartBus communication middleware automatically queues the updates for transmission later. No data are lost due to temporary network failures.

Improves organization efficiency. The ARIS/SmartBus communication middleware reduces costs associated with rekeying errors and poor coordination, while it enables organizations to exploit new opportunities.

Supports industry-standard information-exchange mechanism. Information appears in easily-to-read ASCII format, which simplifies data-traffic monitoring. The product supports web-services transmissions, such as Simple Object Access Protocol (SOAP).

Scales to meet the needs of organizations of all sizes. The ARIS/SmartBus communication middleware can be used to interface the ARIS/SmartBase database to a single external system as well as to multiple systems, data feeds, and databases.

Supports a range of fault-tolerant configurations, from simple single servers to sophisticated parallel clusters. With the most sophisticated hardware configuration, information continues to flow between systems despite the failure of one or more components.

Provides continuous information flow over a variety of operational conditions. The ARIS/SmartBus communication middleware is tuned to ensure information distribution is timely regardless of the level of message traffic between systems.

Provides management reports. You can use log files and monitoring tools, available with the ARIS/SmartBus communication middleware and in other commercial products that operate with the ARIS/SmartBus communication middleware, to monitor the system and provide reports about the data exchanged between specific systems.

Web-enabled for cost-effective rapid and wide deployment. You gain access to the ARIS/SmartBus communication middleware 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/SmartBus communication middleware, using a standard browser, such as the Google Chrome™ browser, directly from your network without the need to install, maintain, and support on-premise hardware and software. Available computing power can be readily adjusted to meet your organization's changing needs, and your solution can be easily expanded to accommodate additional users and to manage additional resources, facilities, and locations.

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Services to help you maximize the benefits of Ascent solutions

Advisory and consulting services. Ascent advises about resource allocation, optimization, planning, scheduling, management, and deployment methodologies; develops cost-benefit analyses; analyzes business processes; and gathers and develops technical requirements and functional specifications.

Project-management services. Ascent's project-management team works closely with you, following time-proven delivery methodologies, and uses face-to-face meetings, teleconferences, web conferences, and email exchanges to keep you informed every step of the way. Ascent believes careful collaborative project management is the key to successful on-time and on-budget deliveries of Ascent's solutions.

Knowledge-engineering services. Knowledge engineering is the process of identifying your business knowledge—the business rules, policies, procedures, preferences, reference information, and requirements that guide the way your organization operates—and then codifying your business knowledge into rules stored in the knowledge base at the heart of the Ascent solutions. Your business knowledge, stored in the knowledge base, determines how the solutions behave. Ascent's knowledge engineers work with you to ensure the solution behaves just as you want it to.

Implementation, integration, and cloud-hosting services. Ascent's implementation team provides system integration and testing services, and develops product extensions, enhancements, and connectivity software for importing data to and exporting data from external systems. Ascent's implementation team also sets up, monitors, and maintains highly secure and reliable AWS hosting environments for the Ascent solutions you rely on, customized to meet your organization's need for redundancy and performance.

Training services. Ascent offers a wide range of user, administrator, trainer, and refresher training classes at your location, at Ascent's Boston, MA, headquarters, and remotely over the web. Ascent also offers operational training services remotely when you begin to use an Ascent solution in production.

Maintenance and support services. Ascent offers maintenance and technical support services for Ascent's solutions around the clock. Ascent provides comprehensive remote support services via telephone, email, web conference, and Internet; software maintenance, such as product updates, patches, and releases; and cloud-hosted environment monitoring, tuning, and switchover. Ascent's web-based ticket system enables you to request service, report problems, track issues day and night, and communicate with the Ascent support team.

Who we are

Since our founding 40 years ago by members of the Massachusetts Institute of Technology Artificial Intelligence Laboratory, Ascent 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. To learn more about how Ascent can help you optimize your resources to greatest advantage, send an email to sales@ascent.com or call our Sales and Marketing team at +1.617.395.4800.

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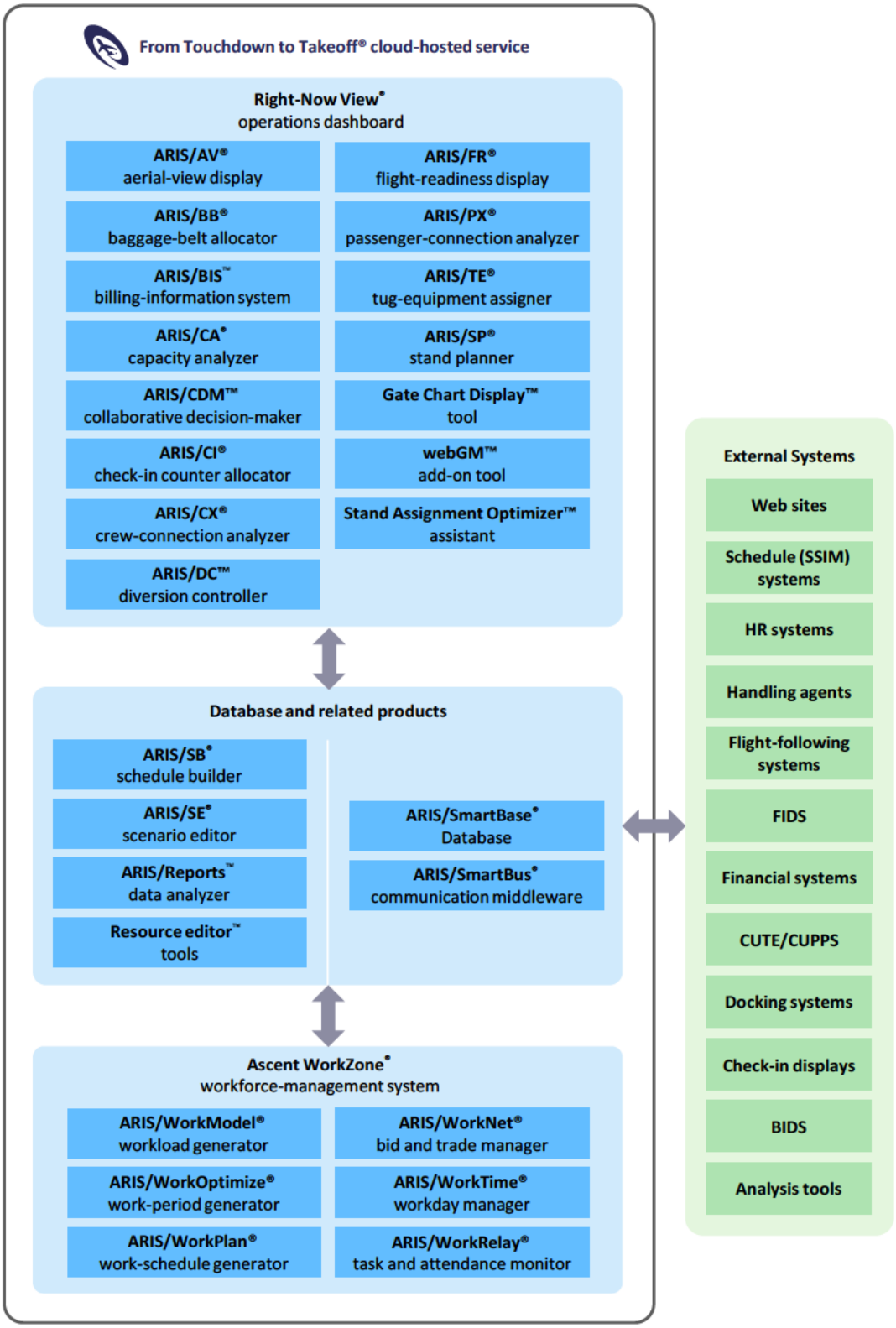
Ascent Resource Information System® solutions



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From Touchdown to Takeoff® cloud-hosted service

Solutions for airline and airport resource optimization, planning, scheduling, and management

A standard web browser, such as the Google Chrome™ browser or the Microsoft Edge™ browser, enables access to Ascent Technology's cloud-hosted solutions. The From Touchdown to Takeoff service requires a minimum resolution of full HD (FHD).

Airport Operational Database (AODB)	Central database
ARIS/SmartBase® database Includes one or more of the following tools:	Integrates, coordinates, disseminates, and maintains planning, operations, and historical information for resource and workforce management
• Location Editor™ tool	Manages the location hierarchy and records used to plan, schedule, and manage workload, workers, and tasks
• Planning Control™ tool	Manages work-schedule planning
• Profile Editor™ tool	Manages passenger-arrival profiles for departure flights
• Reference Editor™ tool	Manages reference-information records that determine how the Ascent Technology products, applications, and tools behave
• Rule Editor™ tool	Manages scenarios, rule groups, and rules for workforce management
• Template Worker Editor™ tool	Manages template worker records used to plan workload
• Update Control™ tool	Manages settings that block external systems from updating information in specified database fields
• User Editor™ tool	Manages user access to the products, applications, and tools
• User Group Editor™ tool	Manages user-group access to pre-set configurations and automated distribution of email and messages
• Worker Editor™ tool	Manages worker-related information and records
ARIS/Reports™ data analyzer	Produces reports based on plan, actual, and historic information
ARIS/SB® schedule builder (with ARIS/LegGen® flight-leg generator and ARIS/SL® schedule loader)	Creates, manages, and distributes flight-schedule and day-of-operation flight information; creates flight legs; and loads and stores SSIM flight data
ARIS/SE® scenario editor	Specifies and manages airport-resource rules and scenarios
ARIS/SmartBus® communication middleware	Enables information exchange between the ARIS/SmartBase database and external systems

Ascent WorkZone® workforce manager	Workforce optimization and management for mission-critical environments
ARIS/WorkModel® workload generator	Forecasts workload based on expected demand
ARIS/WorkNet® bid and trade manager	Worker self-service tool for managing work schedules
ARIS/WorkOptimize® work-period generator	Determines how many workers are needed and when they are needed
ARIS/WorkPlan® work-schedule generator	Creates work lines for full-time and part-time workers
ARIS/WorkRelay® task and attendance monitor	Provides task-assignment information to workers in real time
ARIS/WorkTime® workday manager	Assigns work, breaks, and locations to workers dynamically in real time

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Right-Now View® operations dashboard	Dashboard to plan, schedule, and manage airline and airport resources and operations
ARIS/AV® aerial-view display	Displays real-time aircraft parking-assignment information on an airport aerial view
ARIS/BB® baggage-belt allocator	Plans and allocates baggage make-up and reclaim belts
ARIS/BIS™ billing-information system	Tracks usage-based ground fees
ARIS/CA® capacity analyzer	Plans, analyzes, and manages airport capacity and resources
ARIS/CDM™ collaborative decision-maker	Enables collaborative decision-making with support from Ascent's powerful advanced AI and optimization algorithms
ARIS/CI® check-in counter allocator (with ARIS/IQ® queue manager)	Plans, assigns, and manages ticket counters and kiosks
ARIS/CX® crew-connection analyzer	Shows how flight delays and cancellations affect connecting flight crews
ARIS/DC™ diversion controller	Tracks system-wide flight diversions, providing real-time status of diverted flights to diversion stations
ARIS/FR® flight-readiness display	Provides status of tasks and activities related to arrivals and departures
ARIS/PX® passenger-connection analyzer	Shows how flight delays and cancellations affect connecting passengers
ARIS/SB® schedule builder (with ARIS/LegGen® flight-leg generator and ARIS/SL® schedule loader)	Creates, manages, and distributes flight-schedule and day-of-operation flight information; creates flight legs; and loads and stores SSIM flight data
ARIS/SP® stand planner	Plans parking-position assignments for schedule periods
ARIS/TE® tug-equipment assigner	Manages aircraft tows, assigns tugs to tows, and displays tow status
Gate Chart Display™ tool	Manages day-of-operation parking assignments with manual entry using basic scenarios and rules
Gate Chart Display with webGM™ add-on tool	Plans and manages day-of-operation parking assignments with automated assistance using business rules and intelligent scenarios
Gate Chart Display with webGM add-on tool and Stand Assignment Optimizer™ assistant	Plans and manages day-of-operation parking assignments with automated assistance using business rules and intelligent scenarios, and resolves future parking-assignment problems caused by delays, swaps, and cancellations in compliance with business rules

ARIS, ARIS/AR, ARIS/AV, ARIS/BB, ARIS/CA, ARIS/CI, ARIS/CX, ARIS/FR, ARIS/FW, ARIS/GateView, ARIS/GM, ARIS/IQ, ARIS/PX, ARIS/SA, ARIS/SB, ARIS/SE, ARIS/SL, ARIS/SmartBase, ARIS/SmartBus, ARIS/SP, ARIS/TE, ARIS/Tow Panel, ARIS/WorkModel, ARIS/WorkNet, ARIS/WorkOptimize, ARIS/WorkPlan, ARIS/WorkRelay, ARIS/WorkTime, Ascent Resource Information System, Ascent Technology, Inc. (stylized), Ascent WorkZone, Ascent WorkZone (stylized), From Touchdown to Takeoff, Right-Now View, SmartAirline, SmartAirline Capacity Analyzer, SmartAirline Information Manager, SmartAirline Operations Center, SmartAirline Operations Manager, SmartAirline WorkZone, SmartAirport, SmartAirport Capacity Analyzer, SmartAirport Information Manager, SmartAirport Operations, SmartAirport Operations Center, SmartAirport Operations Manager, SmartAirport WorkZone are registered trademarks of Ascent Technology, Inc., in the United States.

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