ASCENT TECHNOLOGY, INC.

Headquarters
Ascent Technology, Inc.
101 Federal Street, 19th Floor
Boston, MA 02110 USA

Mailing address
Ascent Technology, Inc.
PO Box 51435
Boston, MA 02205-1435 USA

Telephone: +1.617.395.4800
email: sales@ascent.com
www.ascent.com

ARIS/SmartBase® database

Manage, monitor, and maintain the valuable business knowledge that forms the core of all Ascent Technology solutions

The ARIS/SmartBase database is the secure data repository at the core of all Ascent Technology resource-allocation, optimization, and management solutions. It stores information about your human and physical resources, schedules, plans, business rules, scenarios, and operations in an extremely reliable, secure, and high-availability environment, ensuring that timely and relevant information is always available throughout your organization. It stores your information in a well-engineered relational format, using English-language table and column names, ensuring information is readily available for reporting, auditing, and analysis purposes and for export to external systems.

In its knowledge repository, the ARIS/SmartBase database maintains the flexible business rules that control the creation of what-if scenarios, plans, schedules, and real-time responses to planned and unplanned events. In its historical archive, the ARIS/SmartBase database stores accurate records of resources, plans, schedules, operations, and events for use in management reports and analyses.

The ARIS/SmartBase database enables you to:

- Enter information about resources, schedules, plans, operations, and events into one Ascent Resource Information System® product (ARIS® product, for short) and share it with the rest of the SmartAirline Operations Center® solution, the SmartAirport Operations Center® solution, or the Ascent WorkZone® workforce-management system automatically in near real time
- Gain access to a comprehensive, integrated, up-to-the-minute view of your organization's resource, schedule, plan, and operations information

Copyright © 2026 Ascent Technology, Inc. All rights reserved. www.ascent.com

- Export data to external systems and import data from external systems
- Maintain an accurate and consistent data repository for reporting, auditing, and analysis
- Maintain multiple versions of schedules, plans, and what-if scenarios for evaluation
- Improve collaborative decision-making and overall organizational effectiveness by ensuring everyone in your organization has timely access to the same resource, plan, schedule, and day-of-operation information

Because the ARIS/SmartBase database coordinates the actions of all other ARIS products in your solution, when you enter information into one ARIS product, the information is available to all other ARIS products in seconds. When used in combination with the ARIS/SmartBus® communication middleware, the ARIS/SmartBase database simplifies importing information from and exporting information to your organization's other systems.

Ensures a coordinated view of business knowledge

The ARIS/SmartBase database provides a bridge between planners, schedules, and day-of-operations managers. Planners use ARIS products to create plans, storing plan information in the ARIS/SmartBase database, where it is picked up by other ARIS products when scheduling and managing resources and events in actual operations. The ARIS/SmartBase database enables planners' decisions to guide day-of-operations managers' decisions by providing a coordinated view of resources, plans, schedules, and assumptions.

The ARIS/SmartBase database is an enterprise-wide solution; you can use a single database across your entire organization, which means that headquarters' managers can establish consistent guidelines for subsidiary locations. You can adjust guidelines for each subsidiary location and maintain consistency. You can also roll-up subsidiary information to create high-level plans and historical reports.

Ensures rapid and secure dissemination of information

The ARIS/SmartBus communication middleware, the technology layer that surrounds the ARIS/SmartBase database, enables secure information exchange between the ARIS/SmartBase database and external systems, such as schedule, flight, FIDS, BIDS, finance, human resources, and payroll systems, and between the ARIS/SmartBase database and pagers, tablets, smart phones, and other mobile devices. Special mechanisms continuously monitor information, identify alerts and changes to operational conditions, and notify relevant staff.

Ensures high performance and reliability

Because the ARIS/SmartBase database runs on the Oracle® database system, it provides the benefits of Oracle database systems, such as:

- An extremely reliable data-storage environment that prevents information corruption
- Compatibility with numerous software products, report generators, software-development tools, and interface tools
- A wide range of options for processor sizing and fault tolerance

Copyright © 2026 Ascent Technology, Inc. All rights reserved. www.ascent.com

- A wide range of back-up, redundancy, and recovery solutions to ensure no information is lost in the event of hardware or software failure

The ARIS/SmartBase database exploits the high-performance capabilities of the Oracle database, providing outstanding performance in complex environments and ensuring smooth operation during demanding situations.

Representative features

Provides a consistent view of operations across the enterprise. Information stored in the ARIS/SmartBase database is valid, accurate, consistent, and updated in near real time. Everyone in your organization can have access to up-to-the-minute information.

Follows a relational database model. The ARIS/SmartBase database follows the SQL relational database model. It is simple to understand, and it can be mastered easily, even by non-programmers. It is flexible, which makes it possible to retrieve information with minimal effort.

Runs on the Oracle database system. The ARIS/SmartBase database runs on the leading information-management software product. Hundreds of third-party tools operate with the Oracle database system to, for example, format reports, exchange information, and post information to web sites.

Integrates with external systems and web services. The ARIS/SmartBase database operates with the ARIS/SmartBus communication middleware, which simplifies data exchange between the ARIS/SmartBase database and external systems. The ARIS/SmartBus communication middleware generates logs of all inbound and outbound data transfers, greatly simplifying error tracking. Because messages are transmitted using industry-standard protocols, they can be exchanged with and understood by other applications easily.

Maintains enterprise-wide business knowledge in a secure repository. The ARIS/SmartBase database models your business processes as rules entered by means of an easy-to-use forms-based interface. Other ARIS products rely on the business rules to drive planning and operational actions. Information and rules are stored in a single database, providing consistent operations at all locations.

Provides powerful embedded resource-editing tools for entering and maintaining the knowledge base. The ARIS/SmartBase database provides several intuitive, easy-to-use editing tools, such as the Location Editor™ tool, Profile Editor™ tool, Reference Editor™ tool, Rule Editor™, User Editor™ tool, User Group Editor™ tool, and Worker Editor™ tool, that enable you to maintain your knowledge base without programming. It may also provide the ARIS/SE® scenario editor, which enables you to specify and manage business rules and scenarios, and the ARIS/Reports™ data analyzer, which enables you to produce reports based on plan, actual, and historic information.

Provides multiple layers of security. The Oracle database system provides both deep data protection and fine-grained access control. The ARIS/SmartBase database maintains audit trails of modifications made to stored data, such as the type of data modified, the data prior to modification, the modified data, the time of modification, and the reason for modification. In addition, the ARIS/SmartBase database provides partitioning to ensure the privacy of specific processed data.

Copyright © 2026 Ascent Technology, Inc. All rights reserved. www.ascent.com

Scalability and availability. The Oracle database provides transparent scalability when you move ARIS products from a single server to a cluster of servers, scalability with availability when machines in a cluster act as backup machines for all other machines in the cluster, and scalable performance at all hardware ranges.

High performance. The indices associated with each table and clustering in the ARIS/SmartBase database have been carefully tuned to provide high performance in environments where the number of users ranges from just a few to thousands.

Maintains historical information archive. The ARIS/SmartBase database maintains a secure archive of historic planning and operations data you can use to produce accurate and timely reports and to define and analyze key performance metrics. You can perform nightly updates of the archive or you can perform updates in real time, which provides immediate access to today's information for reporting. Careful database engineering ensures activities can extend across the midnight boundary into the next calendar day with no loss of data, possible confusion, or need to interrupt the applications. Using the scenario feature, you can reload the specific model that was active at the time the historical data were created.

Collaborative decision-making. The ARIS/SmartBase database 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 gain access to the ARIS/SmartBase database 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/SmartBase database, 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 readily expanded to accommodate additional users and to manage additional resources, facilities, and locations.

Copyright © 2026 Ascent Technology, Inc. All rights reserved. www.ascent.com

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.

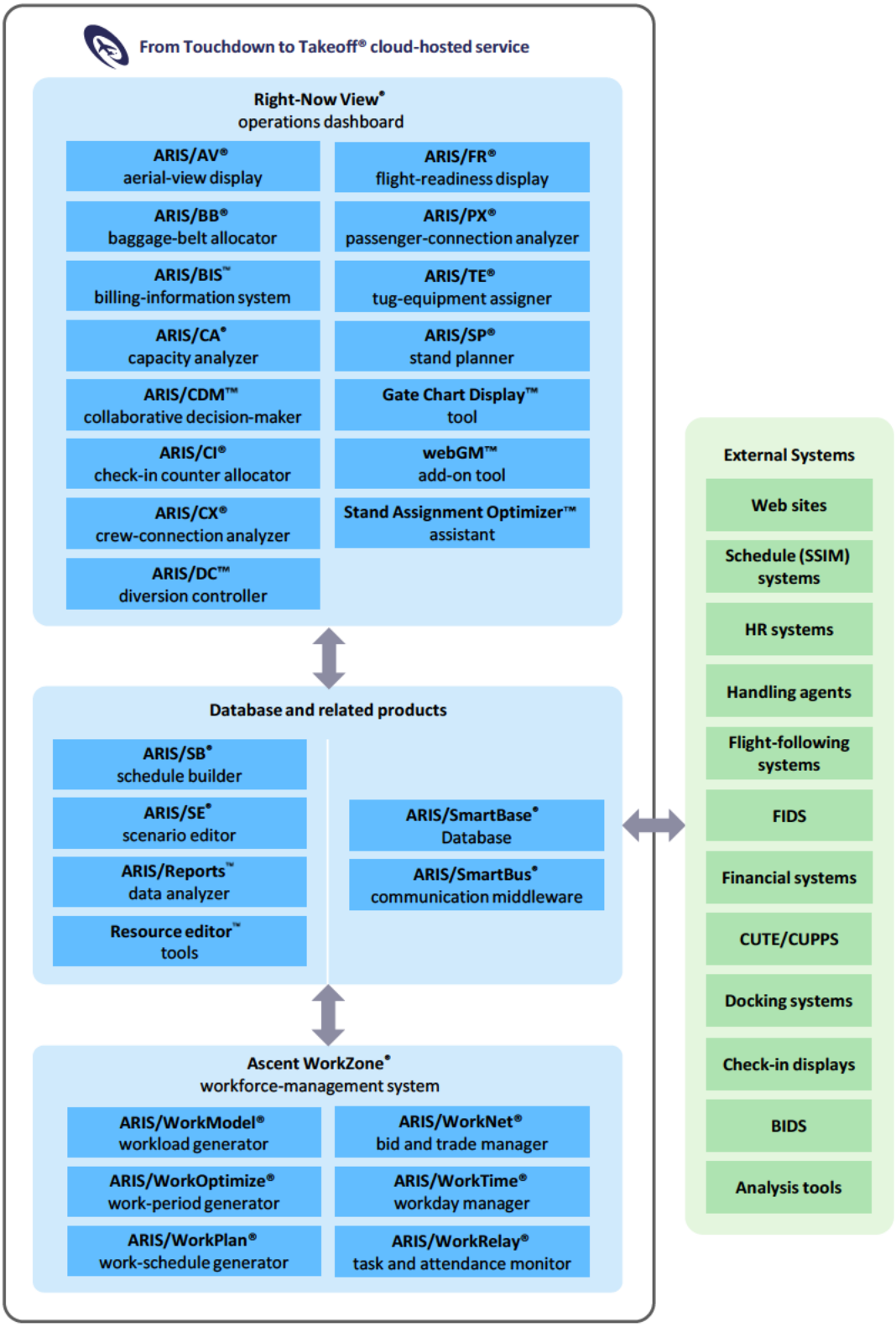
Maintenance and support services. Ascent offers maintenance and technical support services for Ascent's solutions around the clock. Ascent provides comprehensive remote support services via telephone, email, web conference, and Internet; software maintenance, such as product updates, patches, and releases; 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.

Copyright © 2026 Ascent Technology, Inc. All rights reserved. www.ascent.com

Ascent Resource Information System® solutions



Copyright © 2026 Ascent Technology, Inc. All rights reserved. www.ascent.com

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

Copyright © 2026 Ascent Technology, Inc. All rights reserved. www.ascent.com

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.

Active Schedules, Advanced Pay Rule System, ARIS/AR Display Board, ARIS/LegGen, ARIS/AR Turn Generator, ARIS/BB Change History, ARIS/BIS, ARIS/BX, ARIS/CDM, ARIS/CTS, ARIS/DC, ARIS/DS, ARIS/Reports, ARIS/SDS, Ascent WebConnect, Change History, Extended Flight View Dashboard, Flight Data Dashboard, Flight Filter Manager, Gate Chart Display, GateKeeper, Location Editor, Planning Control, Planning Schedules, Profile Editor, Query Editor, Reference Editor, Resource Editor, Rule Editor, Stand Assignment Optimizer, Stand Control, Template Worker Editor, Tow-Data Web Service, Update Control, User Editor, User Group Editor, webGM, webSB, Work Schedule Manager, and Worker Editor are trademarks of Ascent Technology, Inc., in the United States.

This is not a complete list of all registered trademarks, trademarks, and service marks owned by Ascent Technology, Inc. See www.ascent.com/trademarks.html for information. Other company, product, and service names may be registered trademarks, trademarks, or service marks owned by other parties.

Ascent Technology Software is the Confidential Information of Ascent Technology, Inc., and is available only under the terms of a license or grant of rights provided by Ascent Technology, Inc. Ascent Technology Software may be covered by one or more U.S. patents and/or pending patent applications. See www.ascent.com/patents.html for information. Ascent Technology, Inc., solutions may use software components developed by open-source projects. For information, send email to legal@ascent.com. Revised August, 2026.