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ARIS/CA® capacity analyzer

Visualize your future operations, so you can ensure you will have the facilities you need and use those facilities to their fullest potential

The ARIS/CA capacity analyzer enables you to study scenarios about how your stations might operate in the future and analyze how you might operate under the scenarios that use alternative flight schedules. It enables you to create a resource-allocation plan for each scenario that identifies how to use your resources and capacity to greatest advantage. When you experience rapidly-changing flight schedules, irregular operations, or air-transportation system disruptions, the ARIS/CA capacity analyzer can help you determine if you can accommodate additional flights and minimize the effect of the changes and disruptions on your operations.

With the ARIS/CA capacity analyzer, you can:

- Create capacity-utilization projections that show how you would handle proposed flight schedules given the capacity of your runways, gates, stands, and remote parking positions
- Determine how changing the capacity of your runways, gates, stands, and remote parking positions affects your ability to accommodate flights
- Determine which combinations of flight schedules and resources are possible and which combinations are most advantageous
- Examine your resource capacity for any future date to determine which physical changes to make sooner and which to make later

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- Identify physical changes to resources that are most likely to meet customizable goals, such as higher profitability
- Analyze how differences in scheduled flight times and days of operation, aircraft types, and traffic levels affect your operations now and in the future
- Understand how changing mixes of international, domestic, and regional traffic affect your operations
- Identify when and where passenger and cargo traffic peaks and valleys occur
- Determine the most efficient configuration of runways, gates, stands, parking positions, check-in desks, baggage belts, and other facilities
- Determine how to operate during extended periods of construction
- Ensure you construct the physical resources your station really needs
- Change one variable, or several variables, and see how operations are affected so you can proactively resolve problems and generate new business opportunities

Because it provides both long-range schedule planning and dynamic response to requests by carriers to change their schedules, the ARIS/CA capacity analyzer enables you to plan as you operate your stations, and to operate your stations as you planned.

The ARIS/CA capacity analyzer can handle every station, large or small. It can be deployed for use by a few users or by many users, both singly and concurrently.

The ARIS/SmartBase® database is the resource, planning, and operations data and knowledge base, flight-schedule server, and communications server for all SmartAirline Operations Center products and tools. It contains comprehensive, consistent, and accurate information about resources, plans, schedules, and operations. It also contains flexible, user-specified business rules that control the decision-making logic for the creation of resource-allocation plans and scenarios, models of future operations, operational schedules, and real-time responses to irregular operations and other unplanned events. It maintains accurate and secure records of the plans and day-of-operation activities it manages, providing the data needed to produce reports, to generate invoices, and to perform analyses.

The ARIS/SmartBase database ensures that all users have access to the same up-to-the-minute information about scheduled and actual operations at the same time. By accessing and sharing valuable information stored in the ARIS/SmartBase database, users can work collaboratively to make better decisions.

The ARIS/SmartBase database environment is further enriched by its ability to transfer information seamlessly to and from a wide range of data sources, systems, and applications beyond the SmartAirline Operations Center solution, in combination with the ARIS/SmartBus communication middleware.

The ARIS/CA capacity analyzer is available through Ascent Technology's From Touchdown to Takeoff® cloud-hosted service, which delivers the power of Ascent Resource Information System® solutions (ARIS®, for short) in a secure, highly-available, and readily-expandable cloud-hosted infrastructure. When you subscribe to our cloud-hosted service, you can access Ascent Technology's comprehensive suite of ARIS solutions 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

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changing needs and easily expand the solution to accommodate additional users and to manage additional resources, facilities, and locations.

Representative features

Powerful analysis support. The ARIS/CA capacity analyzer enables you to set up multiple analyses that combine different schedules with several scenarios, queue them for processing, and compare multiple runs.

Supports runs with multiple stations in a single analysis. You can analyze hundreds of stations in your network at the push of a button.

Supports and enables system-wide collaboration. The ARIS/CA capacity analyzer's web-based user interface enables planners in all stations to view and discuss results with the entire network planning group.

Provides multiple analysis engines. The ARIS/CA capacity architecture supports multiple analysis engines, enabling the product to crunch through dozens of stations at the same time. This approach makes it ideal for computing environments with large servers with a dozen or more cores.

Provides express-analysis options to process stations when detailed rules are not available. This feature is very useful for airlines operating in dozens or even hundreds of stations without detailed parking procedures.

Available within the Right-Now View® operations dashboard. The Right-Now View operations dashboard provides endless ways to customize displays, giving each user the ability to create an interface that meets their needs.

Communicates results automatically. The ARIS/CA capacity analyzer provides an email and messaging communication interface that sends messages and charts of results to users upon completion of complex runs.

Powerful search capabilities. The ARIS/CA capacity analyzer uses powerful deep-search capabilities to produce highly-optimized results with the smallest numbers of resources required to meet operational guidelines.

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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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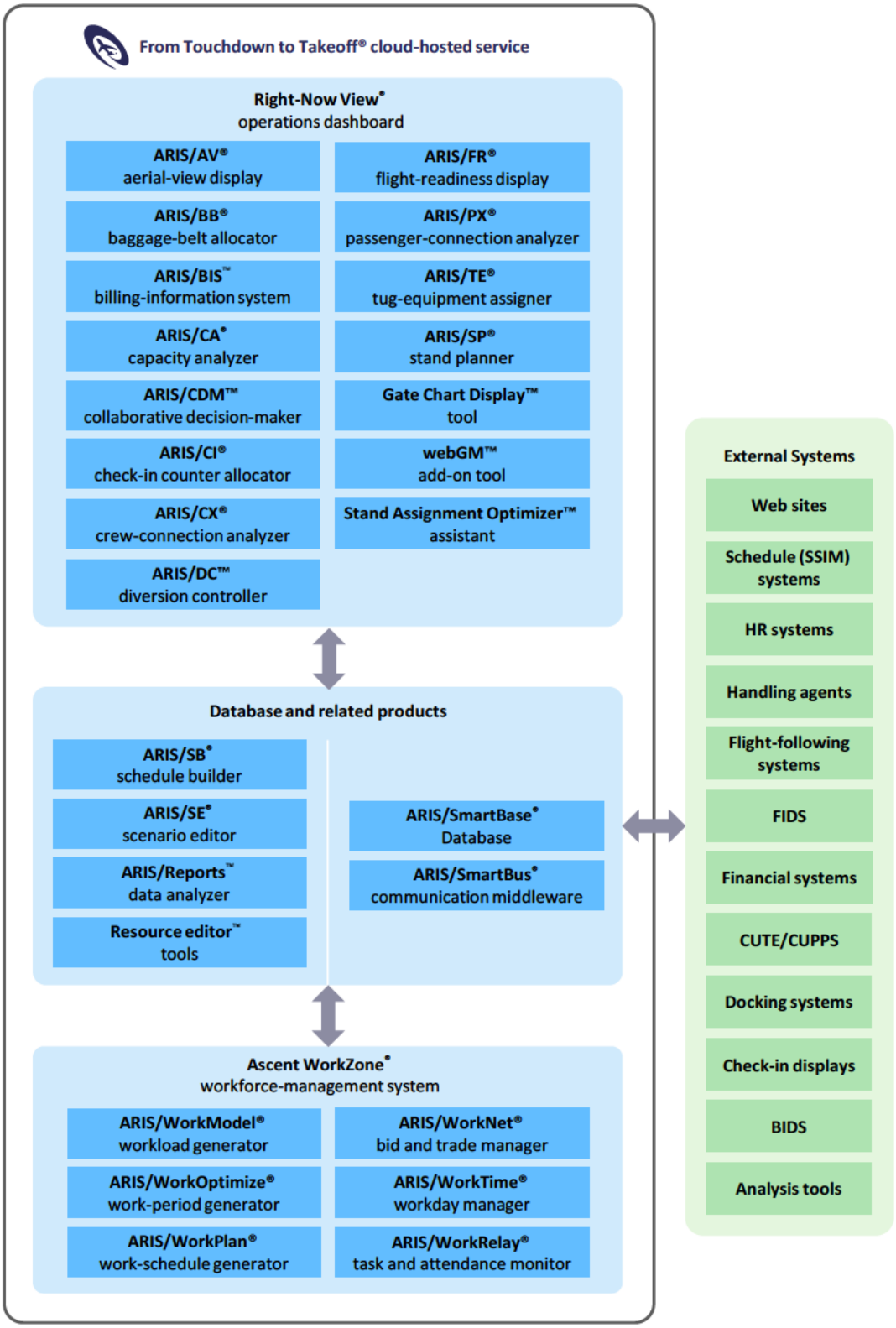
Ascent Resource Information System® solutions



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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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