AIRS™

The AvFinity Integrated Router Solution™

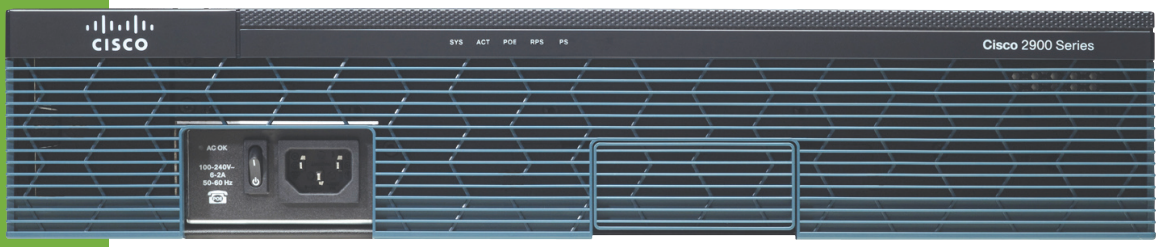
A Secure, Multi-protocol, Data Manipulation Solution

PRODUCT OVERVIEW

AIRS combines all the strengths of the traditional server-based software offered by AvCentric with Cisco AXP technology, providing a wider enterprise footprint. Significant advances include speed and scale with particular attention to security and data manipulation. Protocols from X.25 to TCP and transportable data ranging from binary to XML – including specific formats such as Type B – may be routed and configured using a secure set of AIRS resident web pages.

Operational communication systems are the backbone of your airline. Achieving optimal performance, safety and efficiency are important factors that contribute to your success. With more than a century of understanding how aviation communications impact all operational functions, AvFinity is uniquely positioned to offer the most cost-effective and robust solution to help manage your critical communication needs.

Imagine a simple plug-and-play box that provides your company with all the knowledge needed to communicate between disparate IT systems, spanning all communication protocols and conversing with all formats. The AIRS™ solution uses Cisco's AXP blade servers residing in selected ISR-capable routers. Unlike traditional server-based and desktop systems, AIRS provides a highly scalable, extremely cost-effective solution for both legacy and state-of-the-art communication scenarios.



Our Background

In 2001, AvCentric (AvFinity's sister company) developed software that addressed IT department communication requirements. AvCentric's early focus was a traditional server-based solution to manage and transport operational messaging.

While AvCentric products provided protocol conversion and message routing, AvFinity has taken this proven technology to the next level, developing AIRS as a next-generation data communications tool. Using compiled binaries from C++ source, AIRS stands out as a high-performance, flexible and highly secure communication and data integration engine that provides data conversion, additional protocols and enhanced security.

AIRS Capabilities

Communication Protocols

AIRS is capable of utilizing one or more protocols in support of the typically diverse range of IT needs. AIRS can also convert protocols, e.g., converting FTP to WebSphere MQ Series. Currently AIRS operates with any of the following protocols:

- IBM WebSphere MQ Series Client – Message-oriented middleware (MOM)
- IBM WebSphere MQ Series Server – Message-oriented middleware (MOM)
- FTP Client
- FTP Server
- SMTP
- POP3
- SOAP Client
- SOAP Server
- Raw Sockets
- MATIP (Mapping Airline Traffic over IP)
- BATAP (Type B Application-to-Application Protocol)
- CIFS (Common Internet File System) or SMB – mainly MS Windows shared files, printers
- HTTP
- HTTP (POST)
- CMHP – Common Message Handling Protocol
- JMS – Java Message Oriented Middleware
- AMQP – Advanced Message Queuing Protocol

Note: Additional synchronous capabilities such as X.25 and X.400 are also available in certain configurations.

Data Manipulation

AIRS utilizes a robust patent-pending scripting engine based on JavaScript. This data manipulation engine has been enhanced with capabilities outside the typical JavaScript sand box. These extensions, accessible from the scripting engine, allow specific logic rules to be supplied as either a pre-process or post-process messaging.

Features include:

- XML Manipulation
- Range of database connectivity
  - Oracle Database Server
  - Microsoft SQL Server
  - Sybase
  - DB2
  - Informix
  - InterBase/Firebird
  - Centura (formerly Gupta) SQLBase
  - MySQL
  - PostgreSQL
  - SQLite
  - ODBC
- Email using SMTP/POP3
- WebSphere MQ (Server & Client)
- SMB – Writing Flat Files

AvFinity Private Cloud

AIRS can communicate from AIRS to AIRS using a secure connection between an unlimited number of units. Data may be routed securely between AIRS installations by utilizing a LDAP lookup.

AvFinity Third-Party Connections

AIRS provides direct or indirect connectivity (using the AvFinity® network) to the following third party providers:

Flight Plan Filing

- FAA – Flight Plans, NOTAMs and the AIDAP replacement for the legacy FAA604 weather data circuit
- AFTN (Aeronautical Fixed Telecommunication Network)
- VOLPE – John A. Volpe National Transportation Systems Center (CDM)
- EuroControl – Flight Plans
- NAV-CANADA – Flight Plans

APIS Filing

- US DHS CBP Traditional APIS – Advance Passenger Information System
- US DHS CBP AQQ – APIS Quick Query
- US DHS CBP eAPIS – Electronic Advance Passenger Information System
- Canadian CBSA – Advance Passenger Information System
- CARICOM – Advance Passenger Information System

Other Aviation Networks

- SITA
- ARINC
- MyFax – Faxing solutions provider
- EasyLink – Telex provider
- EasyLink – Fax provider

Message Types

AIRS has been developed to move ***any*** type of data.

Specific message types currently transported by airline clients using AIRS include:

- Type B
- AFTN
- UN/EDIFACT
- Spec2000
- Type-X
- XML
- Binary

AvFinity® and the Cisco ISR/AXP

Table 1. Service Ready Engine (SRE)

PART NUMBER	RESOURCES	POSITIONING
ISM-SRE-300-K9	• ISM form factor • 1.066 GHz Intel processor • 512 MB RAM • 2 GB eUSB	Cisco AXP ISM platform is suitable for smaller footprint and / or embedded applications supported on ISR G2 platform.
SM-SRE-700-K9	• SM form factor • 1.86-GHz Intel Core 2 Duo processor (Single Core) • 2 GB RAM • 500 GB hard disk	Cisco AXP SM platform is designed for high input/output (I/O) inline packet services and advanced applications supported on ISR G2 platform.
SM-SRE-900-K9	• SM form factor • 1.86-GHz Intel Core 2 Duo processor (Dual Core) • 4 GB RAM • 1 TB hard disk • RAID 1 support • Embedded hardware based cryptography acceleration	Cisco AXP SM is designed for application which require extensive processing capability and additional memory and require high availability supported on ISR G2 platform.

AvFinity provides data communication solutions for airline customers worldwide, including AIRS™ – the AvFinity software technology residing on an industry-standard Cisco router. AIRS, built by a product team with a century of combined aviation messaging experience, provides solutions that are proven through thousands of hours of operation in actual flight environments. In addition, AIRS is flexible enough to support all communication types and protocols while easily handling the frequent changes and additions to messaging and communication systems that carriers experience. Because of its standards-based design, AIRS is implemented quickly and without any impact to a carrier's existing IT infrastructure.

To learn more, please go to **www.avfinity.com** or email **AIRS@avfinity.com.**

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