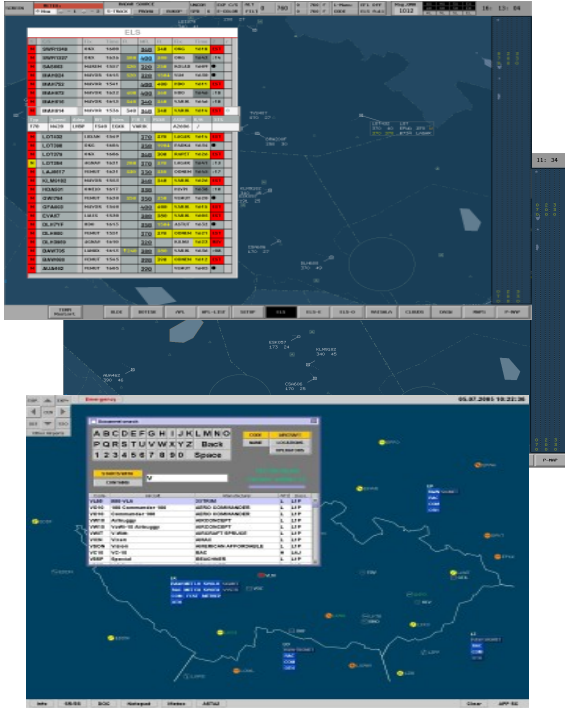




# ATRAK-SIMU – ATC Simulation System



ATRAK-SIMU comprises three core elements for operation:-

- **ATRAK Simulation Server**
- **ATRAK Exerciser Server**
- **ATRAK Simulation Workstation**

The ATRAK-SIMU server replicates the operational ATRAK-EC/PC and ATRAK-IMS data servers and relevant feeds. The Simulator FDP, EC/PC and IMS data processed in background by the ATRAK-SIMU server is then delivered to the corresponding ATRAK-SIMU workstation. The ATRAK-SIMU server is in itself made up of two main parts:-

- **Radar Server**
- **Auxiliary Data Feeder**

The Radar server runs as one instance for each group and when started is told to simulate one of the operational radars. The auxiliary data feeder utilises shell scripts and standard Unix tools for file manipulation and data distribution and database command tools to modify the contents of the database. The ATRAK Exerciser Server provides virtual time and separation of positions into the corresponding groups.

The ATRAK-SIMU Workstations replicate operational workstations for ATRAK-EC/PC or ATRAK-IMS and comprise of dual processor workstations supporting the ATRAK digital video interface and relevant ATRAK digital ATC displays.

**Field Computer Consultancy Limited (ICC)**, a LAIC group company have been system developers and service providers to the Air Traffic Control industry for over 20 years with technical specialists based in the UK and Europe.

ICC has developed a number of key ATC solutions, front end systems for Executive, Planning Control, Information Management, and Radar Fallback and back-office solutions for accounts, human resources and billing and statistics.

The **ATRAK-SIMU**® system provides all the functionality of ICC's main ATC systems, ATRAK-IMS® and ATRAK-EC/PC® for training and scenario simulation purposes.

The main features of the ATRAK-SIMU system are:-

- **Virtual time exercise** (allows freezing, slowing/speeding up scenarios)
- **Data availability control**
  - Datafeeds can be disabled to simulate an outage scenario
- **Runtime-configurable options**
- **Sophisticated logging facilities**



# ATRAK

ICC's information display processing suite of ATC/ATM applications - delivering quality solutions as an integral part of air traffic control and management.

# Technical Specification

## Main Functionality

The **ATRAK-SIMU** system replicates the operational functionality of the **ATRAK-EC/PC** and **ATRAK-IMS** systems namely:-

### **Information Management including:-**

- Map overview
- Static and dynamic information
- Multi-view Meteorological Information
- SunRise/SunSet timings
- Emergency Procedures
- Search and Rescue facility .
- Flight data information
- Detailed Event Logging facility

### **Dedicated Information Screens for:-**

- Senior ATC Controller
- Watch Supervisor
- ATC Controller
- Military sites

### **Executive and Planning Control including:-**

- Radar and flight data processing
- Aircraft position and traffic flow display
- Weather processing
- System Supervision.

### **ATRAK-SIMU Server components include:-**

- **Exercise Control Server** - sets exercise scenarios
- **Radar server** - simulate operational radar
- **Auxiliary Data Feeder** - distribution of data

The Exercise Server provides virtual time and separation of positions into groups.

The Radar server runs as one instance for each group. When started, it is told to simulate one of the operational radars. It receives exercise radar data over the network and translates that to the output format as the emulated radar. It also receives SSR code to call sign matches from the FDP simulator.

The Auxiliary Data Feeder - handles distribution of three data types:

**AWOS** (Airport Weather Observation System) (distributed at exercise start from the exercise software as "exercise scenario file" which contains data sets to be released at specific moments during the exercise. Data is distributed via network (UDP) broadcasts (each group uses a different UDP port) as in the operational system

**CLOUDS** (Significant clouds data) - distributed at exercise start from the exercise software as "exercise scenario file" (containing times and filenames) and compressed data files. These are uncompressed, modified with virtual time and distributed to all workstations in the group

**IMS** data - distributed at exercise start from the exercise software as "exercise scenario file" (containing times and filenames) and data files containing items that are to be stored into the database at specific times (virtual exercise times). Each group uses its own database.



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## System Specification

### **Server:**

**ATRAK-SIMU** Enterprise server comprising: -

- AIX Operating System
- Multi (4/8) Processors
- Dual Ethernet Adapters, Dual Power supply units
- Rack mounted console, keyboard and mouse
- ATRAK Raid array subsystem with ULTRA3 SCSI disk drives

### **Workstation:**

**ATRAK-SIMU 250/2500** High Performance X-Display workstation comprising: -

- AIX Operating System
- Dual Processors
- Dual Ethernet Adapters, Dual Power supply units
- Rack mounted console, keyboard and mouse

### **ATRAK-SIMU ATC display**

- **ATRAK-IMS** (As operational specification)
- **ATRAK-EC/PC** (As operational specification)

### **ATRAK-IMS PLUS Digital Video interface**

- **ATRAK-IMS** (As operational specification)
- **ATRAK-EC/PC** (As operational specification)

**ATRAK-SIMU Deskender** digital extender including: -

- DVI (dual-link) supported to VESA standards
- Supports PS/2 or USB keyboard & mouse
- Extends up to 1000 meters over fibre

### **Software:**

Operating System software

- AIX UNIX

Application software

- ATRAK-SIMU application software including:-
  - Exercise Control Server software
  - Radar Server software
  - Auxiliary Data Feeder software

Database software

- Oracle, MS-SQL

ICC have been delivering safe, reliable, mission critical ATC solutions and services for over 20 years. For more information please contact us.



[www.icc-atcsolutions.com](http://www.icc-atcsolutions.com)