

# ESMS

## ENHANCED SYSTEM MANAGEMENT STATION FOR AIR TRAFFIC CONTROL ENVIRONMENTS

# COMSOFT

# PRODUCT INFORMATION

ESMS unites latest system management technology with today's supervision needs for heterogeneous, distributed and highly safety critical system infrastructures. Validated supervision modules for ARTAS, RMCDE, ECG and other standard ATC/ATM components are included.

The need for system management of large ATC/ATM infrastructures has grown over the years. Instead of a traditional system-by-system monitoring, today a uniform supervision of a large range of heterogeneous distributed IT components is required.

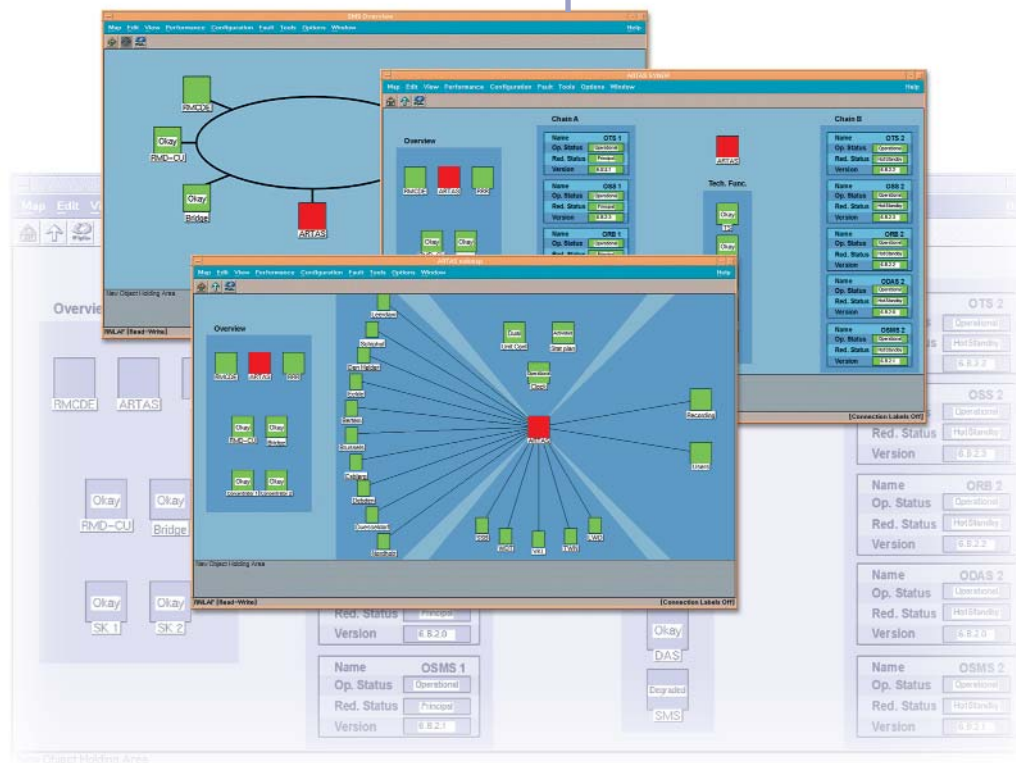
ESMS ideally matches this need, exploiting the strengths of two mainstream COTS products, HP OpenView as management shell and ORACLE as data repository.

The core of ESMS is a rule-based engine that allows the end-user to specify his supervision logic and presentation requirements on a higher level.

Standard modules, e.g. for ARTAS, RMCDE and ECG are available off-the-shelf and can be included into a customer-tailored ESMS supervision suite, that can be maintained by the end-user over its complete lifetime.

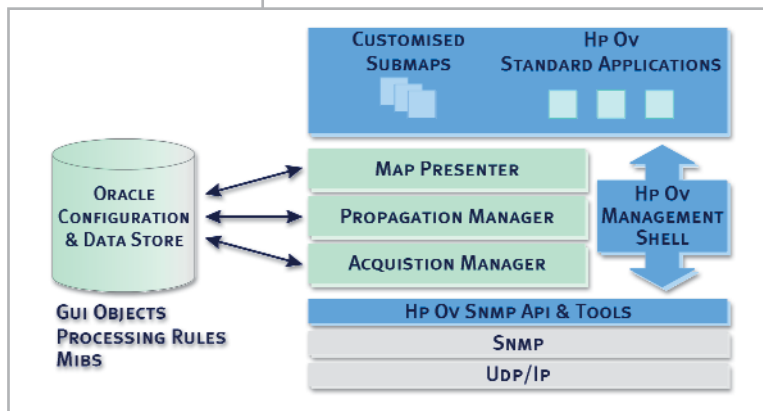
### HIGHLIGHTS

- SNMP V1/V2 supervision of centre and remote equipment
- HP OpenView runtime platform for system management
- ORACLE database for information repository (static and dynamic data)
- End-User configurability and extensibility
- Flexible rule-based alarm processing and visualisation
- Easily adaptable GUIs and logging
- Validated standard modules for ARTAS, RMCDE and ECG supervision



## TECHNICAL DATA

Platform	<ul style="list-style-type: none"> <li>- HP or INTEL Workstation</li> <li>- HP UX or Windows 2000/XP Operating System</li> <li>- Serial Line and LAN connectivity</li> </ul>
Management Shell	<ul style="list-style-type: none"> <li>- SNMP V1, V2, (V3)</li> <li>- HP OpenView supervision framework</li> <li>- Proxy agents for supervision of non-SNMP equipment</li> <li>- Standard applications for MIB browsing, alarm filtering and logging</li> </ul>
Data Repository	<p>All configuration data is stored in ORACLE database:</p> <ul style="list-style-type: none"> <li>- Transparency and Ease of Change</li> <li>- Simplified configuration management</li> <li>- Online switching between configuration versions</li> </ul> <p>All status and log data is stored in ORACLE database:</p> <ul style="list-style-type: none"> <li>- Easy accessibility for 3<sup>rd</sup> party applications</li> <li>- Direct use of enhanced data analysis and data mining tools</li> </ul>
Information Processing	<ul style="list-style-type: none"> <li>- Rule-based approach using elementary MIB information to compute higher level summary or alarm states</li> <li>- Rules are end-user-configurable by high level language</li> <li>- Flexible definition of visualisation and alarming attributes</li> <li>- GUI builder for simplified construction and modification of presentations</li> <li>- End-user can enhance or modify processing rules, alarm attributes and picture presentations to his needs</li> </ul>



ESMS Architecture

## ARCHITECTURE

The ESMS architecture combines standard management components (HP OpenView), a standard data repository (ORACLE) and a stack of system agents in a flexible framework:

- The ESMS acquisition manager interrogates equipment and listens to traps according to the defined MIBs
  - The ESMS Propagation Manager executes the user-defined rules for visualisation and alarming
  - The ESMS Map Presenter populates the GUI with submaps as defined by the user
- All configuration elements (MIB, rules, maps) are stored in the ORACLE database.

## GENERIC SUPERVISION MODULES

- Acquisition details imported from equipment MIB
- GUI presentation and processing rules as defined by end-user
- Support of MIB evolutions
- Support of end-user modifications of all supervision properties

## ARTAS MODULE

- Supports all used ARTAS configurations
- All major system states visualized and used for alarming
- Adjacent system states (radars,...) included
- All major system controls available from GUI
- Supports Polling and ARTAS traps
- Module validated against latest ARTAS release

## ECG MODULE

- Supports all used ECG and AIDA-NG configurations
- Control and monitoring of all LAs (Logical Addresses) and CIDIN VCs (Virtual Circuits)
- Automatic online adaptation of configuration

## RMCD E MODULE

- All major system states including external line states are visualised and used for alarming
- All major system controls (reset, switch-over, ...) are available from GUI
- Module validated against latest RMCD E release

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