Alchemy Enterprise Portal for CA AutoSys

Technical Overview
What is Alchemy Enterprise Portal for AutoSys?

Alchemy Enterprise Portal is a web-based workload visualization, monitoring, and management tool for CA AutoSys Workload Automation System.

The business-centric approach to workload automation employed by Alchemy Enterprise Portal allows IT organizations to extend the visibility and management of critical business processes from the server room into the hands of process owners.

Alchemy builds on and extends AutoSys workload automation engine with full SOX compliance, additional job attributes, context-based field level security, exception notifications with automatic escalation and integration with third-party service desk applications.
Key Capabilities

- Real-time AutoSys status metrics delivered in role based dashboards via interactive charts and summary reports
- Create, edit, delete and manage jobs, calendars, and machines
- Full SOX compliance
- Schedule forecasting and multi-level job dependency analysis
- Notifications, time-based escalations, automatic SLA alerts and audits
- Single point of visibility for job status, output files, logs, and error messages
- Multiple job management
- Enterprise reporting integrated with desktop productivity tools (Excel, PDF, MS-Project)
- Fine-grained dynamic security model with field level access control
- Highly scalable with a single installation capable of supporting up to 1000 concurrent users
Architecture

- Supports all recent AutoSys versions (from release 3.4 to r11 inclusive - all platforms)
- Built on a transactional application server with native support for all databases used by AutoSys
- Web based thin-client architecture provides high-performance zero-install client access via any web browser (No Java applets, ActiveX or other fat-client components)
- Support for all popular browsers including IE, Firefox, Opera, Netscape, Safari, and many others
- Multiple content generation and delivery mechanisms – HTML, HTML+CSS, WAP, Flash, PDF, Desktop productivity tools
- Medium agnostic approach to presentation allows Alchemy to automatically adjust to the capabilities of the client device (from IE to iPhone)
- All Alchemy data is stored in a separate schema and AutoSys tables are accessed only in read-only mode. All AutoSys updates are performed via its command line interface
- Load balancing with clustering and automatic fail-over
- Scripting environment with high-level AutoSys API for production release automation, backups, and batch processing
Role Based Dashboards

• Role based dashboards provide AutoSys job stream visualization at sys admin, team, machine, department, and enterprise levels.

• Dashboards deliver key workload metrics in easy to comprehend, visually compelling, interactive charts and summary reports with drill-down to supporting data.

• Systems administrators can purpose-build new dashboards and customize the panels in existing dashboards

• Alchemy comes with an extensive set of pre-built panels that provide visibility into all AutoSys objects (jobs, runs, calendars, machines etc.) in report, chart, gauge, calendar or other visual presentation forms.

• Customers can submit their panel ideas to Infusient to be incorporated into future releases or build their own panels and share it with other Alchemy users via Infusient's innovation exchange site.
SOX Compliance

- Alchemy Enterprise Portal is a web-based alternative to WCC and AutoSys command line tools
- Authorized users can create/edit/delete jobs, calendars, or machines, send events and define overrides using nothing but a web browser
- All actions that impact AutoSys from editing jobs to running them are captured in the history log with the performing user id, date/time and old/new values where applicable
- History log becomes part of job's permanent life-cycle record providing the technical underpinnings of SOX internal control requirements
- Alchemy also provides a powerful attachment functionality where artifacts such as files, notes, web links, e-mail messages, and help desk tickets can be attached directly to the job and become part of the job's life-cycle record
- The attachments allow IT organizations capture full job-stream history, from the spec document to the failure analysis and the trouble ticket providing a single-point-of-visibility into the business process itself.
New Job Attributes

Alchemy Enterprise Portal enhances AutoSys with new job attributes to capture business process related information about the job.

The new attributes are stored in a separate database table yet can be maintained, searched, reported on, used to build dashboards just like any other job attribute. The available attributes are:

- job_category: Main Job Classification (prod, test, etc)
- team_name: Production Group or other collaborative unit
- job_flow: Job Stream identifier
- platform: Target Platform (Unix, Windows)
- job_admin: Assigned System Administrator
- requested_by: Requester / Business Process Owner
- org_code: Responsible Org
- team_leader: Production Manager
- project: IT Project (if applicable)
- department: Owning Department
- job_attr[1-5], job_date[1-3]: Site Specific job attributes
Notification and Escalation

- Notifications can be defined for individual jobs or by dynamic job search criteria
- Notification definitions consist of a trigger and one or more actions
- Triggers
  - Job status change (complete, fail, on hold etc.) or exit code
  - Alarms
  - Job changes (create, edit, delete etc.)
- Actions
  - Send e-mail or page one or more recipients
  - Send SNMP trap
  - Custom actions defined by administrator via a script fragment
- Notifications may optionally be escalated if they are not handled within a given time window
- Multiple levels of time-based escalations may be defined with their own set of actions. Example: page the next responder if the notification is not handled within 30 minutes
Reporting

- Alchemy Enterprise Portal comes with canned reports for all AutoSys objects – jobs, job runs, events, alarms, calendars etc.
- Pre-defined reports can be customized and redistributed by users themselves
- All reports can be exported to Excel, PDF, MS/Project and other office productivity tools
- Alchemy utilizes other forms of visualizations such as:
  - Weekly/Monthly Calendars: For instance to capture job runs on a calendar
  - Timeline (Gannt Chart): To display job run durations
  - Dependency Graphs: Multi-level schedule forecasting
- Alchemy also includes a charting engine that supports an extensive set of chart types including bar, line, area, pie, radar, pyramid as well as a collection of gauges and instrumentation controls.
  - Alchemy charts are fully interactive with drill-down to detail charts or reports
  - Charts can be exported to Excel charts or incorporated in your documents as images or PDF
Customizing Alchemy

• Alchemy Enterprise Portal is flexible, customizable, and extensible. Nearly all aspects of Alchemy can be configured by the administrator without code changes
• The layout of all job screens (create job, edit job, job info, job search etc.) can be customized by job type
• You can turn on/off new job attributes or define field-level security for any job attribute
• Users can customize existing reports and save report definitions as live links and redistribute them
• The panels in the existing dashboards and their layout can be customized; new panels can be built and incorporated
• New dashboards with their own filtering criteria can be defined
• All application menus are customizable; you can add new options or delete existing ones
• You can change the look-and-feel of the system by defining new skins or customizing existing ones
Security

- Alchemy implements a role based security model for fine-grained, context-based access control and authorization
- Security policy can be changed without modifying the underlying security model
- Actions are associated with named privileges (e.g. Create Job, Modify Calendar etc.)
- Privileges are combined into roles by Access Control List (ACL) categories where each ACL category is a potential match between job attribute values and the attribute values possessed by the user
- Some user ACL's are automatically derived (user's login id, org code, team membership etc.), others have to be manually granted (AutoSys machines, job flows etc.)
- Each user is assigned one or more roles which are combined to derive user's privilege/ACL matrix
- At run time, whenever user tries a controlled action; Alchemy compares job's attributes against the ACL held by the user and, for all matches, checks the user's ACL matrix for the privilege requested. Access is granted if the privilege is found, denied otherwise
Performance and Scalability

• The transactional application server and thin web client architecture lends itself to near linear scalability
• Application server's integrated design and compact memory footprint reduces its potential load on deployment platforms
• Alchemy uses native drivers for all target databases ensuring maximum possible throughput from database connections
• Clustering support with automatic fail-over ensures high-availability in environments that require it
• Multi-server dynamic load balancing with transaction affinity
• In real-life conditions, each Alchemy server process can support 30-50 concurrent users
• Infusient's load tests proved that a single Linux box, when properly configured, can support up to 1000 concurrent users provided the back-end database keeps up
Alchemy versus WCC

- **Alchemy Enterprise Portal**
  1. Uses the same platform and database as AutoSys; can be installed alongside AutoSys
  2. Web based thin-client with zero-install access via any web browser
     - Supports Autosys Releases 3.4 to r11
  1. Can support up to 1000 concurrent users via a single server machine
  2. Requires purchase of a separate software license from Infusient

- **WCC**
  1. Requires its own Windows based server(s) – potentially up to 4 - and Ingres database
     - Java based thick client interface
     - Supports AutoSys Releases 4.0 to r11
  1. CA reports that WCC SP4 is tested with 30 concurrent users successfully
  2. Bundled with AutoSys
Licensing

• Alchemy Enterprise Portal is sold and supported by Infusient, a CA ESP partner with a decade of AutoSys experience

• Enterprise Site License
  – Single tier pricing
  – No per seat licenses
  – No per CPU or server licenses
  – Unlimited number of Alchemy instances or installations per site
  – One license covers an IT site regardless of the geographical locations of end users

• First year of software support agreement included
  – Free product upgrades for all minor and major releases
  – Respond to production problems within 24 hours
  – Fixes/workarounds to most problems available within a week

• Software support agreement is available at 25% of software list price in subsequent years
Next Steps

- To learn more, and see how Alchemy Enterprise Portal for AutoSys can help you improve and simplify job flow management, visit:
- To schedule a web demo of Alchemy Enterprise Portal for your organization contact Infusient:
  - info@infusient.com
  - 310.694.5046 option 2
- Infusient makes Alchemy available over the Internet for evaluation and POC purposes
- To get your own Alchemy instance setup so that you can review the software at your own pace, contact your account representative at Infusient.