

# MATRIX

Actively Managing  
Operational Investment Risk

PRODUCT SUMMARY

Varden   
TECHNOLOGIES

Matrix is a web-based monitoring and notification platform that is redefining how investment firms manage and reduce the operational risks inherent to the investment process. Stricter regulatory requirements, increasingly complex investment vehicles, and larger trading volumes are making investment and back office workflows more complex. With greater complexity comes the risk of more frequent and sizeable trading errors. Matrix has been specifically designed to allow your firm to automate and customize the monitoring, notification, and escalation of risk points specific to your firm's investment workflows. The result: reduce your overall investment risk while alleviating the time consuming manual checks currently being performed by your investment and operation teams.

## KEY FEATURES

- Monitor virtually any system within your organization for user-defined risk conditions.
- Custom configuration of risk queues allows each condition to notify and escalate to users based on your criteria.
- Advanced drilldown into workflow queues provides the user immediate details on risk conditions.
- Audit logs show the historic view of risk conditions as well as situations and actions that have occurred.
- User personalization and configuration that allows audible, visual, and email notifications.
- Powerful data library and component builder allows efficient access and combining of data from multiple data sources.
- 100% web based deployment allows remote, handheld monitoring.

## RETURN ON INVESTMENT

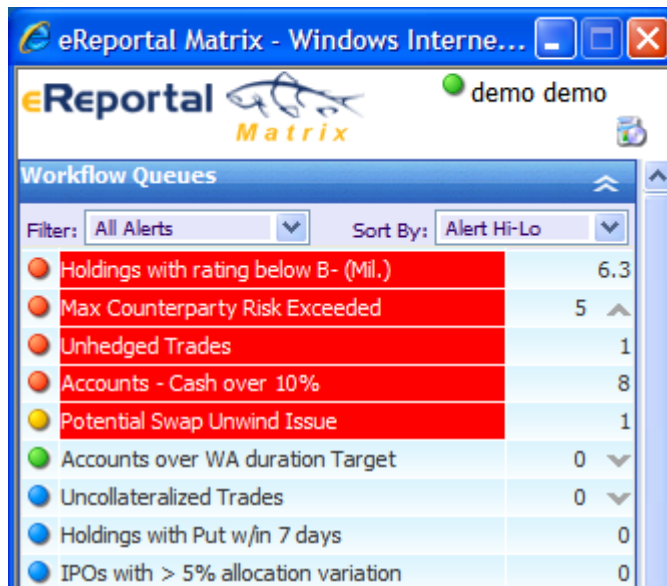
- Reduction in trading errors translates into fewer hard dollars reimbursed to clients and reduces the client relationship strain associated with those errors.
- Improved workflow efficiency frees up existing investment / operations staff and lowers hiring needs.
- Quickly implemented and deployed within your investment process, Matrix will bring a quick return on investment in the product.

## The Challenge

Your firm's workflow is becoming increasingly complex. There are risk points in your operations and investment management workflows that have resulted in an increase in investment, settlement, and trading errors.

- Reduce manual monitoring and checks that are time consuming and prone to error.
- Actively notify your investment and operation teams of risk conditions before problems occur.
- Proactively demonstrate to your clients and executive board that you are serious about minimizing the costs of operational Investment Risk.

## The Matrix Web Console



The screenshot shows the eReportal Matrix web console interface. The title bar reads "eReportal Matrix - Windows Interne...". The main header includes the "eReportal Matrix" logo and "demo demo" text. Below the header is a "Workflow Queues" section with a filter set to "All Alerts" and a sort order of "Alert Hi-Lo". The table lists various risk conditions with their respective counts and status indicators.

| Alert                                | Count |
|--------------------------------------|-------|
| Holdings with rating below B- (Mil.) | 6.3   |
| Max Counterparty Risk Exceeded       | 5     |
| Unhedged Trades                      | 1     |
| Accounts - Cash over 10%             | 8     |
| Potential Swap Unwind Issue          | 1     |
| Accounts over WA duration Target     | 0     |
| Uncollateralized Trades              | 0     |
| Holdings with Put w/in 7 days        | 0     |
| IPOs with > 5% allocation variation  | 0     |

User-defined workflow queues allow active monitoring of operational risk situations throughout your organization

## MONITOR → NOTIFY → ESCALATE

Matrix provides a reliable and structured framework for developing an operational risk management infrastructure that can be configured to your firm's specific workflow. Varden will work closely with your firm to quickly identify the risk points in your investment workflow and implement custom queues to address these areas. Below are two scenarios that may be encountered within your trading workflow:

### Example Workflow 1 (investments):

Monitor overdrawn cash for Equity Portfolios (Must take all executed trades on blotter into account)

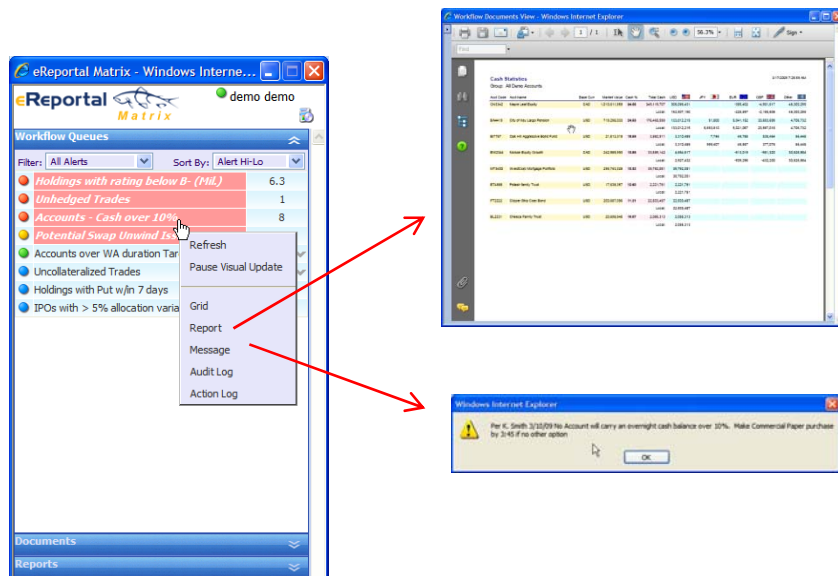
- From 12pm to 4:00pm check every 15 minutes for overdrawn accounts
  - If any accounts found notify subscribers with screen prompt
  - Subscribers can then drilldown from prompt to cash report to see situation
- At 4:00pm if there are overdrawn accounts, email report to head trader showing problem accounts.

### Example Workflow 2 (compliance):

Verify that all IPO orders flowing through trading system are allocated within a pro-rata variance of 2% of market value.

- From 8am to 6:00pm check every 30 minutes for IPO orders that have an allocation variance greater than 2% (taking round lot rules into account)
  - Notify compliance officer via text message / blackberry
  - Notify head equity trader via email
- At 6pm – automatically run IPO report showing all Order allocations and send to document repository for historical audit record as required by SAS70 guidelines.

Each queue can be configured to allow drilldown into a detail report, a workflow action, or an external application. All situations and actions are fully audited to show the specific steps that have taken place for a specific queue.



### CONTACT US

Minh Nguyen  
617.482.5902 ext. 309  
Minh.nguyen@vardentech.com  
Varden Technologies, Inc.  
211 Congress Street, 9th Floor  
Boston, MA 02110  
www.ereportal.com/Matrix

## Risk Point: Unhedged Trades

*Description:* All global portfolios must hedge currency risk to base currency of portfolio for non-base currency trades. This process will monitor current days trades and verify a corresponding spot/forward transactions for trade quantities. Bond and currency trading is performed on different trading platforms.

*Exposure:* Failure to hedge investments is a violation of client guidelines and firm is financially liable for currency Risk Point: Unhedged Trades loss.

---

## Monitoring Details

*Situations / Actions:* All global portfolios must hedge currency risk to base currency of portfolio for non-base currency trades. This process will monitor current days trades and verify a corresponding spot/forward transactions for trade quantities. Bond and currency trading is performed on different trading platforms.

*Exposure:* Failure to hedge investments is a violation of client guidelines and firm is financially liable for currency Risk Point: Unhedged Trades loss.