Automated Controls
Strategy, Implementation & Practical Examples

By Danny Miller, CGEIT, CISA, ITIL
Introduction
Automated controls exist in most IT applications, interfaces and appliances. All Enterprise Resource Planning (ERP) systems contain them in one form or another. Automated controls are generally highly configurable to the client’s environment to meet its control and automation needs.

Some key questions to ask with automated controls include: (1) where do they exist? (2) how do they match up with my business process so that I can use them? (3) are they reasonable or worthwhile to turn on and use? and (4) are they hard to configure and maintain? This white paper seeks to give the reader guidance for answering those questions and discussing strategies around the implementation of automated controls. We will also provide some practical examples on taking advantage of automated controls and give a baseline example.

What are automated controls?
An automated control is a mechanism or device inside an application, interface or appliance that enforces or controls a rule-set or validation on one or more conditions inside of a process.

A very simple example is an order-entry screen inside an application that contains a field that only allows the user to select from a list of approved vendors to complete the order. The control is the mechanism that limits the choices of vendors. Inside the application, certain rule-sets are set in place to limit the list of vendors based on information in a separate file that the application reads when that screen is presented to an end-user. Automated controls can exist in an application at any of the stages of information flow, including input, processing and output.
How do automated controls benefit IT and the business?
While there are many benefits of automated controls, there are several key benefits that organizations should be aware of for purposes of placing them in the proper context.

Regulatory compliance/fraud
In the current business climate, fraud-related regulations applicable to many industries are likely to become more intrusive and prescriptive. Controls which can reduce the likelihood and impact of fraud, mismanagement and error through automated means are therefore a welcome tool for management. Examples of automated controls in this area include those that enforce defined segregation of duties and those that ensure that a company delegation of authority policy is followed.

Business process monitoring
With responsibilities being pushed down inside organizations, management needs ways in which they can control the process flow inside their organizations without adding significant overhead. In a well considered implementation of automated controls, policies which define how the organization works can be automated. The types of controls involved include positive edit, user authority and/or work flow controls.

An example is the control over delegation of authority in a financial context. The company’s main accounting system may have a routine inside which, based on previously defined limits, allows individuals with the requisite authority to approve certain transactions. Others without that configured authority in the control cannot approve transactions outside their limits.

Compliance/internal audit testing
Companies are routinely pressured by shareholders, Board of Directors and Audit Committees not only to keep general audit costs down, but also to continuously look for cost reduction opportunities in their audit compliance efforts involving internal and external testing of their controls. As a result, there has been a corresponding demand by client companies for external audit firms to rely more heavily on the testing conducted by management. External audit firms have universally welcomed the addition of automated controls inside their clients - with the understanding that effective change management practices are in place. With the advent of the “one transaction” test per year on a given automated control, the internal and external testing cycles can be substantially accelerated, with resulting cost savings.

Development controls
In order to have an effective automated control implementation, organizations must have a robust system development life cycle (SDLC) with sound change management and strong quality control. To prove an automated control from its foundation, the company must show that the control was implemented correctly and there is a clear and documented history of change management.

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Strategies for implementing & monitoring automated controls

A strategy for the usage of automated controls is needed inside organizations to ensure that benefit is derived from their use. Some example strategies to use with automated controls include:

- Obtain agreement with your external auditor on the reliance around automated controls for all your compliance testing. In a heavily regulated industry such as banking, it is also recommended that you work with regulatory agencies that audit the organization to accept the value of automated controls.

- Recognize that only relevant controls inside applications available for automation should be turned on. A good number of organizations have simply “turned on” automated controls and found that it has negatively impacted their usage of both the application and the underlying business process.

- Examine business processes tied to the balance sheet and cross-reference available automated controls within the supporting applications. Following this examination, determine if it makes sense to implement the available automated controls. As mentioned before, a return on investment (ROI) calculation is helpful in making this determination.

- Consider the overall access and segregation of duties (SoD) strategy when determining whether and how to implement automated controls. The implementation of automated controls almost always will affect access and SoD controls.

Benchmarking/baselining automated controls

For a well-established and accepted strategy around baselining automated controls, listed below are four key elements which form the foundation for the successful baselining of an application:

- The relevant/key automated controls embedded in the application are appropriately designed
- The automated key controls operate effectively
- The relevant supporting IT general controls, especially management of changes to the application, are appropriately designed, and
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Practical examples of automated controls
Here are the steps one would take to baseline the controls around the Foreign Exchange process within Hyperion, as an example:

(1) Check the updates to the system since the last baseline. If there are changes that impacted the controls that were last baselined, then a new baseline for that control must be done. This means that if the control or the code which actions the control has changed significantly, then the control should be re-baselined.

(2) Check that the change management process over the application is robust. Look for evidence of good change management practices, such as good documentation, well-defined test plans and scripts, approvals for changes and approvals for the implementation of changes, i.e., User-Acceptance Testing.

(3) For the FX process in Hyperion, for example
   a) The Supervisor logs into the system as supervisor-level
   b) Supervisor takes rates from whatever “official” source, such as TravelEx
   c) Supervisor enters rates into the system (a control may be here to have some limit checks internally)
   d) A separate report is printed and signed (or an e-mail originated) by the supervisor’s superior noting that they checked that the correct rates were entered and that the entries were authorized.

At each step of the process, there should be verification by observation and through various kinds of evidence such as screen-shots that each part of the process and the controls were being appropriately managed.

(4) Data test
   a) Run or trace existing #’s through the FX calculator and re-perform calculator to confirm it is working properly.
   b) If doing a re-performance, look at the mappings to determine if the #’s are properly classified.
   c) Document all steps.

Once the baseline over the control has been completed, a single transaction may be used to “exercise” the control every period it is to be tested for a maximum of 3 years before it will need to be re-baselined. The key to ensuring that the baseline stays valid is the observance of steps (1) and (2) above, with special emphasis around a rigorous change management process and appropriately documenting the original baseline.

Summary
Automated controls provide many benefits to organizations which have a heavily mechanized infrastructure and which are also burdened with manual business processes. Larger organizations, who have traditionally relied heavily on manual business process controls can greatly benefit from the replacement of those manuals controls with automated controls to enhance their control structure and reduce the cost of compliance. Organizations should undertake and understand the cost/benefit analysis before tackling the actual implementation of automated controls, since there is a real and definable effort in implementing and maintaining those controls.
About the author

Danny Miller is a Principal and Practice Leader of Grant Thornton’s Advisory Services practice in Philadelphia. Danny has over 22 years of experience in the Information Technology and Audit fields. He has been a software developer, IT auditor, database administrator, project manager and Chief Information Officer in a wide-range of industries.

Danny holds certifications as a Certified Information Systems Auditor (CISA), a Yellow-Belt in Six-Sigma, a Certification in the Governance of Enterprise IT (CGEIT), and a Green Badge in ITIL. He is also a published author in computer fraud, fraud detection and prevention. Danny is a member of the Institute of Internal Auditors (IIA) and the Information Systems Audit and Control Association (ISACA).