



Fidelity Brokerage Services LLC

Report on Fidelity Brokerage Services LLC's control activities related to investment advice systematically generated through the Investment Strategy Tool computer models to digital self-led retail individual retirement account owners on fidelity.com who elected to use the computer models throughout the period May 1, 2023 to April 30, 2024

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Section I - Report of Independent Accountants



Report of Independent Accountants

To the Management of Fidelity Brokerage Services LLC

We have examined the accompanying management assertion of Fidelity Brokerage Services LLC (“FBS” or the “Company”), which states that “the control activities set forth in ‘Fidelity Brokerage Services LLC Management Criteria and Control Activities’ related to investment advice systematically generated through the Investment Strategy Tool computer models (“computer models”) to digital self-led retail individual retirement account owners on fidelity.com (accessed via the Planning and Guidance Center or the “Investment Strategy” section within the Planning Summary during the period May 1, 2023 to April 30, 2024, and accessed via the “Analysis” tab of the Portfolio Summary or the “Investments” section within the Planning Summary during the period December 5, 2023 to April 30, 2024) who elected to use the computer models throughout the period May 1, 2023 to April 30, 2024, were suitably designed and operated effectively to achieve management’s criteria set forth in ‘Fidelity Brokerage Services LLC Management Criteria and Control Activities’” (“management’s assertion”). FBS uses Broadridge Investor Communication Solutions, Inc. to provide control activities related to the accuracy of prospectus delivery, Salesforce, Inc. to provide information technology general control services for the Salesforce application and supporting infrastructure, Amazon Web Services, Inc. and Microsoft Azure to provide cloud infrastructure management services, and ServiceNow, Inc. to provide information technology general control services for the ServiceNow application and supporting infrastructure. FBS’ management is responsible for its assertion, including functions performed by Broadridge Investor Communication Solutions, Inc., Salesforce, Inc., Amazon Web Services, Inc., Microsoft Azure, and ServiceNow, Inc. Our responsibility is to express an opinion on management’s assertion based on our examination.

FBS used Dalbar, Inc. to certify that the computer models meet the requirements of Section 408(g) of the Employee Retirement Income Security Act of 1974, as amended (“ERISA”), and Section 4975(d)(17) of the Internal Revenue Code of 1986, as amended (the “IRC”). Management’s assertion indicates that Dalbar, Inc. determined whether the computer models met the requirements of Section 408(g) of ERISA and Section 4975(d)(17) of the IRC, and that Dalbar performed the most recent certifications on December 1, 2021 for the Investment Strategy Tool computer model accessed via the Planning and Guidance Center or the “Investment Strategy” section within the Planning Summary and on September 1, 2023 for the Investment Strategy Tool computer model accessed via the “Analysis” tab of the Portfolio Summary or the “Investments” section within the Planning Summary. The scope of our work did not include procedures over the processing performed by the computer models or the completeness and accuracy of the inputs into the computer models or outputs generated by the models and we did not examine the design, implementation or operating effectiveness of the computer models to meet the requirements of paragraph (b)(4)(i) of Section 408(g) of ERISA and Section 4975(d)(17) of the IRC.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform the examination to obtain reasonable assurance about whether management's assertion is fairly stated, in all material respects. An examination involves performing procedures to obtain evidence about management’s assertion. The nature, timing and extent of the procedures selected depend on our judgment, including an assessment of the risks of material misstatement of management’s assertion, whether due to fraud or error. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

We are required to be independent and to meet our other ethical responsibilities in accordance with relevant ethical requirements related to the engagement.

Because of the inherent limitations of an examination engagement, together with the inherent limitations of internal control, an unavoidable risk exists that some material misstatements may not be detected, even though the examination is properly planned and performed in accordance with the attestation standards.



We were not engaged to perform and did not perform an examination during the period from May 1, 2023 to April 30, 2024 of the Company's compliance or internal control over compliance with any laws or regulations, including, but not limited to, Section 408(g) of ERISA, Section 4975(f)(8)(E) of the Internal Revenue Code of 1986, as amended, and 29 CFR 2550.408g-1(b)(6). We also were not engaged to perform and did not perform an examination of the Company's compliance with its contractual obligations to its clients during the period from May 1, 2023 to April 30, 2024.

In our opinion, management's assertion referred to above is fairly stated, in all material respects.

PricewaterhouseCoopers LLP

Boston, MA
July 26, 2024

Section II - Fidelity Brokerage Services LLC's Assertion



Fidelity Brokerage Services LLC's Assertion

Fidelity Brokerage Services LLC ("FBS") provides investment advice systematically generated through the Investment Strategy Tool computer models ("computer models") to digital self-led retail individual retirement account owners on fidelity.com (accessed via the Planning and Guidance Center or the "Investment Strategy" section within the Planning Summary during the period May 1, 2023 to April 30, 2024, and accessed via the "Analysis" tab of the Portfolio Summary or the "Investments" section within the Planning Summary during the period December 5, 2023 to April 30, 2024) who elect to use the computer models. We prepared Management's Criteria ("management's criteria") and identified control activities related to investment advice systematically generated through the computer models to digital self-led retail individual retirement account owners on fidelity.com who elect to use the computer models ("control activities") to achieve each aspect of management's criteria which are presented in conjunction with management's criteria in "Fidelity Brokerage Services LLC Management Criteria and Control Activities." FBS uses Broadridge Investor Communication Solutions, Inc. to provide control activities related to the accuracy of prospectus delivery, Salesforce, Inc. to provide information technology general control services for the Salesforce application and supporting infrastructure, Amazon Web Services, Inc. and Microsoft Azure to provide cloud infrastructure management services, and ServiceNow, Inc. to provide information technology general control services for the ServiceNow application and supporting infrastructure. Management's criteria and control activities, including those related to the functions performed by Broadridge Investor Communication Solutions, Inc., Salesforce, Inc., Amazon Web Services, Inc., Microsoft Azure, and ServiceNow, Inc. are the responsibility of FBS and we, as members of management, are responsible for establishing the control activities and for the suitability of the design, implementation and operating effectiveness of the control activities.

Dalbar, Inc. was used to certify the computer models to determine whether the computer models met the requirements of Section 408(g) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), and Section 4975(d)(17) of the Internal Revenue Code of 1986, as amended (the "IRC"). During the examination period, Dalbar performed the most recent certifications on December 1, 2021 for the Investment Strategy Tool computer model accessed via the Planning and Guidance Center or the "Investment Strategy" section within the Planning Summary and on September 1, 2023 for the Investment Strategy Tool computer model accessed via the "Analysis" tab of the Portfolio Summary or the "Investments" section within the Planning Summary.

We have evaluated whether the control activities were suitably designed and operating effectively to achieve management's criteria throughout the period May 1, 2023 to April 30, 2024 for digital self-led retail individual retirement account owners on fidelity.com.

Based on our evaluation and consideration of the aforementioned paragraph, we assert that "the control activities set forth in 'Fidelity Brokerage Services LLC Management Criteria and Control Activities' related to investment advice systematically generated through the Investment Strategy Tool computer models ("computer models") to digital self-led retail individual retirement account owners on fidelity.com (accessed via the Planning and Guidance Center or the "Investment Strategy" section within the Planning Summary during the period May 1, 2023 to April 30, 2024, and accessed via the "Analysis" tab of the Portfolio Summary or the "Investments" section within the Planning Summary during the period December 5, 2023 to April 30, 2024) who elected to use the computer models throughout the period May 1, 2023 to April 30, 2024, were suitably designed and operated effectively to achieve management's criteria set forth in 'Fidelity Brokerage Services LLC Management Criteria and Control Activities'."

Fidelity Brokerage Services LLC Management Criteria and Control Activities

Management Criteria	Control Activities
Computer Model	
<p>1. The Investment Strategy methodology document describes the following:</p> <ul style="list-style-type: none"> a) The only investment advice provided under the arrangement is advice that is generated by the Investment Strategy Tool. b) The Investment Strategy Tool applies generally accepted investment theories, as reflected in the Investment Strategy methodology document, which take into account the historic risks and returns of different asset classes over defined periods of time. c) The Investment Strategy Tool takes into account the investment management and other fees attendant to the recommended investments. d) The Investment Strategy Tool appropriately weights the factors used in estimating future returns of investment options. e) The Investment Strategy Tool requests from a participant or beneficiary and, to the extent furnished, utilizes information relating to age, time horizons (e.g., life expectancy, retirement age), risk tolerance, current investments in designated investment options, other assets or sources of income, and investment preferences. f) The Investment Strategy Tool utilizes appropriate objective criteria to provide asset allocation portfolios comprised of investment options available under the plan. g) The Investment Strategy Tool avoids investment recommendations that inappropriately favor investment options offered by the fiduciary adviser or a person with a material affiliation or material contractual relationship with the fiduciary adviser over other investment options, if any, available under the plan; or that may generate greater income for the fiduciary adviser or a person with a material affiliation or material contractual relationship with the fiduciary adviser. h) The Investment Strategy Tool takes into account designated investment options available under the plan without giving inappropriate weight to any investment option. 	<ul style="list-style-type: none"> 1.1 The Investment Strategy methodology document exists and describes the items noted in a) through h) of Management Criteria. 1.2 Changes to the Investment Strategy methodology document are reviewed and approved.

Management Criteria

Control Activities

Computer Model Certification	
<p>2. An eligible investment expert has provided a written certification that meets the following requirements:</p> <ul style="list-style-type: none"> a. Be in writing; b. Contain— <ul style="list-style-type: none"> (1) An identification of the methodology or methodologies applied in determining whether the computer model meets the requirements of paragraph (b)(4)(i) of Labor Regulation 2550.408g-1 (the “Regulation”) and Section 4975 of the IRC, as applicable; (2) An explanation of how the applied methodology or methodologies demonstrated that the computer model met the requirements of paragraph (b)(4)(i) of the Regulation and Section 4975 of the IRC, as applicable; (3) A description of any limitations that were imposed by any person on the eligible investment expert's selection or application of methodologies for determining whether the computer model meets the requirements of paragraph (b)(4)(i) of the Regulation and Section 4975 of the IRC, as applicable; (4) A representation that the methodology or methodologies were applied by a person or persons with the educational background, technical training or experience necessary to analyze and determine whether the computer model meets the requirements of paragraph (b)(4)(i) of the Regulation and Section 4975 of the IRC, as applicable; and (5) A statement certifying that the eligible investment expert has determined that the computer model meets the requirements of paragraph (b)(4)(i) of the Regulation and Section 4975 of the IRC, as applicable; c. Be signed by the eligible investment expert. 	<ul style="list-style-type: none"> 2.1 Management performs a domestic due diligence review prior to selecting an eligible investment expert to perform the computer model certification which is documented and retained to determine whether the eligible investment expert has appropriate technical training or experience and proficiency to analyze, determine and certify the computer model as required. 2.2 Management monitors computer model changes to determine if a new certification is required. Change types that warrant recertification are documented and a recertification is performed by an eligible investment expert.

Management Criteria**Control Activities**

Authorization by Plan Fiduciary	
<p>3. The account owner (the "Authorizing Fiduciary") has expressly authorized the arrangement pursuant to which advice is provided to account owner. The Authorizing Fiduciary shall not be Fidelity or any of its affiliates except with respect to a plan sponsored by Fidelity or its affiliates.</p>	<p>3.1 The account owner is required to accept the agreement authorizing the investment advice arrangement prior to provision of investment advice.</p>
Annual Audit	
<p>4. Fidelity will engage an independent auditor, at least annually, to conduct an audit and</p> <p>a. Within 60 days following completion of the audit, issue a written report to the fiduciary adviser which (1) identifies the fiduciary adviser, (2) indicates the type of arrangement (i.e., computer model), (3) indicates the date of the most recent computer model certification, and identifies the eligible investment expert that provided the certification, and (4) sets forth the specific findings of the auditor.</p> <p>b. Within 30 days following receipt of the report from the auditor, shall furnish a copy of the report to the account owner or make such report available on its Web site, provided that such account owners are provided information concerning the purpose of the report, and how and where to locate the report applicable to their account.</p>	<p>4.1 Fidelity makes available the audit report within the Investment Strategy Tool within 30 days following receipt of the audit report.</p> <p>4.2 Fidelity provides account owners information concerning the purpose of the audit report within the Fiduciary Advisor Disclosure and how and where to locate the report.</p>

Management Criteria**Control Activities**

Disclosure to Account Owners	
<p>5. Fidelity's Fiduciary Adviser Disclosure is provided to account owners no later than the provision of investment advice and includes:</p> <ul style="list-style-type: none"> a. the role of any party that has a material affiliation or material contractual relationship with Fidelity in the development of the investment advice program and in the selection of investment options available under the plan; b. that Fidelity will be providing investment advice services as a fiduciary under the Employee Retirement Income Security Act ("ERISA") and the Internal Revenue Code ("IRC"), as applicable; and c. that Fidelity, its affiliates, and parties with whom Fidelity Investments has a material financial relationship will be providing services for which they will be compensated, which include: investment management, transfer agent, brokerage, custodial, recordkeeping and shareholder services for some/all the investment funds available under the plan; d. the types of services provided by FBS in connection with the provision of this investment advice; e. any material affiliation or material contractual relationship of Fidelity or any affiliate thereof in the security or other property offered as an investment recommendation; f. all fees or other compensation that Fidelity or any affiliate thereof is to receive in connection with the provision of the advice, the sale, acquisition, or holding of any security or other property pursuant to such advice, or any rollover or other distribution of assets or the investment of distributed assets in any security or other property pursuant to such advice; g. that the advice recipient may separately arrange for the provision of advice by another advisor that could have no material affiliation with and receive no compensation in connection with the investment funds or products offered under the plan ; h. the availability of past performance and historical rates of return of the designated investment options available under the plan on fidelity.com; i. the manner, and under what circumstances any customer information provided under the arrangement will be used or disclosed. 	<p>5.1 Required disclosures are automatically presented within the Investment Strategy Tool to account owners prior to provision of investment advice.</p> <p>5.2 Disclosure content provided to account owners is reviewed and approved by Fidelity legal to ensure required content is included.</p>

Management Criteria

Control Activities

Disclosure to Authorizing Fiduciary	
<p>6. Fidelity shall provide the account owner a written notice informing the account owner:</p> <ul style="list-style-type: none"> a. That Fidelity intends to comply with the conditions of the statutory exemptions for investment advice under section 408(b)(14) and 408(g) of ERISA, Section 4975 of the IRC, and Labor Regs. Section 2550.408g-1, as applicable; b. That, as required, the advice arrangements subject to those exemptions will be audited annually by an independent auditor for compliance with the requirements of the statutory exemption and related regulations; and c. That a copy of the auditor's findings will be made available within 30 days following completion of the audit. 	<p>6.1 Account owners receive the Fiduciary Adviser Disclosure describing the Investment Advice Arrangement prior to provision of investment advice.</p> <p>6.2 Disclosure content provided to account owners is reviewed and approved by Fidelity legal to ensure required content is included.</p>
Other Conditions	
<p>7. Fidelity and its affiliates provide appropriate disclosure, in connection with the sale, acquisition or holding of securities offered as an investment recommendation, in accordance with all applicable securities laws.</p> <p>For purposes of this assertion, "all applicable securities laws" is defined as the following: (a) the prospectus delivery requirements of section 5(b) of the Securities Act of 1933, (b) transaction confirmation delivery requirements of Rule 10b-10 of the Securities Exchange Act of 1934, as amended, and (c) periodic account statement delivery requirements of National Association of Securities Dealers Rule 2340.</p> <p>All sales, acquisitions, or holding of a security occur solely at the discretion of the recipient of the advice.</p> <p>The compensation received by Fidelity and its affiliates in connection with the sale, acquisition or holding of a security is reasonable. For this purpose, reasonableness is measured by the market value of the particular services, rights and other benefits delivered to the account.</p> <p>The terms of the sale, acquisition, or holding of a security is at least as favorable to the account as an arm's length transaction would be.</p>	<p>7.1 Management performs an annual review of Fidelity compensation received in connection with sale, acquisition, or holding of a security related to the advice provided in the Investment Strategy Tool to ensure such compensation is reasonable and at least as favorable to the plan as an arm's length transaction would be.</p> <p>7.2 Prior to statements being sent to print production, Regulatory Communications Group (RCG) reviews a sample of statements for completeness and accuracy and documents the results of their review on the monthly supervisory checklist.</p> <p>7.3 On a monthly basis, RCG reviews a sample of trade confirms for completeness and accuracy and documents the results of their review on the monthly supervisory checklist.</p> <p>7.4 Electronic statements and trade confirms are automatically generated with shareholder data from FBSI and posted to fidelity.com.</p> <p>7.5 Integrated Customer System automatically flags accounts requiring statements based on account activity and suppression rules. Accounts with no activity are flagged for statements on a quarterly basis.</p> <p>7.6 Confirms Engine automatically flags accounts requiring trade confirms based on account activity and suppression rules.</p> <p>7.7 The systems utilized to receive and move files systematically restrict users from modifying the data after system creation.</p>

Management Criteria

Control Activities

	<p>7.8 On a daily basis, Fidelity verifies on the Service Order Acknowledgement Reconciliation report that the record count in each service order provided to Broadridge Investor Communications Services matches the total record count in the associated fulfillment assurance files. If the reported record counts cannot be reconciled by the end of the applicable service level agreement period, exceptions will be researched and tracked to resolution.</p> <p>7.9 The Prospectus Delivery System automatically flags initial mutual fund purchases for prospectus delivery based on trades and customer elections.</p> <p>7.10 Fidelity reviews each prospectus cycle in the Prospectus Delivery System to confirm that there are no widespread system anomalies which would cause delays or missed fulfillment of prospectuses.</p> <p>7.11 Fidelity reviews Broadridge Investor Communications Services total record count on T+1 to monitor delivery on post sale fulfillment.</p> <p>7.12 Fidelity performs vendor oversight activities including the review of the vendor's SOC 1 report to evaluate the controls related to accuracy of prospectus delivery.</p> <p>7.13 Effective electronic delivery and effective electronic non-delivery of statements and trade confirmations are systematically confirmed in C360. For customers whose email address can't be delivered to, based on regulatory delivery failures, electronic delivery is systematically revoked and the customer is moved to printed (U.S. Mail) communications.</p>
Record Retention	
<p>8. Fidelity retains, for a period of not less than six years after the provision of investment advice, records necessary for determining whether the criteria noted above have been met.</p>	<p>8.1 Investment advice provisioned to account owners via the Investment Strategy Tool is systematically captured, and it is configured to be retained for no less than six years.</p> <p>8.2 The Investment Strategy methodology document, the Fiduciary Adviser Disclosure, Tool Certification from an eligible investment expert and the Report of Independent Accountants (subsequent to the first annual audit) are configured to be retained for no less than 6 years from document creation.</p>

Management Criteria

Control Activities

Information Technology General Controls – Change Management	
<p>9. Information technology general controls are in place to support the criteria above.</p>	<p>9.1 Changes to systems are documented in a formal ticket initiation and management tool. Changes are tested by appropriate personnel according to policy.</p> <p>9.2 Changes are authorized and approved by appropriate personnel according to policy.</p> <p>9.3 Access to migrate changes into production is periodically reviewed to ensure access is restricted to appropriate personnel and removed or modified if necessary, in a timely manner.</p> <p>9.4 Automated change migration tools have been implemented to migrate changes into production only after the approvals are received. Changes to the configuration of these tools are tested and approved prior to implementation.</p> <p>9.5 Changes to systems are requested through a formal ticket initiation and management tool. Changes are tested by the required business and/or systems personnel. Test exceptions are appropriately recorded, monitored and tracked for resolution.</p> <p>9.6 Requests for changes to the permanent job scheduler require the submission of a change ticket. Each change ticket must contain the install date/time, description of the job, system, and instructions for executing the production scheduling change. Appropriate approvals must be obtained in the formal ticket initiation and management tool before modifications are made to the job schedule.</p> <p>9.7 Batch job override requests for the Mainframe platform are entered into the production job stream after required approvals are obtained through the formal ticket initiation and management tool. Ad hoc command line changes to production batch jobs for the Distributed systems are performed by the Batch Services group. The request to submit a one-time change to the production batch jobs for the Distributed systems must be fully approved through the change management system before being implemented.</p> <p>9.8 For the period of 6/3/2023 - 4/30/2024: For the subset of systems that use a change management tool with systematic validation checks, the formal ticket initiation and management tool is configured to assign the appropriate approval group(s) to the corresponding change ticket depending on the affected system. The requestor of the change cannot approve their own change.</p>

Management Criteria**Control Activities**

	<p>9.9 For the period of 6/3/2023 - 4/30/2024: For the subset of systems that use a change management tool with systematic validation checks, approval groups assigned to each of the affected systems in the formal ticket initiation and management tool are reviewed on a periodic basis by the asset owners.</p> <p>9.10 For the period 6/3/2023 – 4/30/2024: For the subset of systems that use a change management tool with systematic validation checks, individuals within the approval groups assigned to each of the affected systems in the formal ticket initiation and management tool are reviewed on a periodic basis by the group owners.</p> <p>9.11 For the period 6/3/2023 – 4/30/2024: For the subset of systems using an automated change management tool to migrate changes to production, changes are subject to approval and change ticket validations, as applicable, and the automated change migration tool enforces separation of duties. Changes to the configuration of these tools are tested and approved prior to implementation.</p> <p>9.12 Change requests to firewall systems, IDS, and IPS are recorded in the formal ticket initiation and management tool and follow Fidelity's standard change management procedures in order to provide central control, approval, prioritization and the reporting of changes to the production environment.</p> <p>9.13 Hardware and software changes for network equipment and systems are recorded, tested, and approved within a formal ticket initiation and management tool prior to production implementation.</p> <p>9.14 Fidelity performs vendor oversight activities including review of the vendor's SOC 1 report to evaluate the related controls.</p>
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Management Criteria

Control Activities

Information Technology General Controls – Computer Operations	
10. Information technology general controls are in place to support the criteria above.	<p>10.1 Testing is performed and documented for additions and changes to scheduled production jobs and scheduling definitions according to policy.</p> <p>10.2 Job schedule additions and changes are approved by appropriate personnel according to policy.</p> <p>10.3 Production processing incidents identified are logged, monitored and researched and resolved in a complete, accurate and timely manner.</p> <p>10.4 The FSC monitors the processing and performance of critical production data and systems on a continuous basis. Incident monitoring software is used to produce automated alerts in the event of significant system interruption.</p> <p>10.5 Incident tickets are opened by operators when significant processing issues are identified. Incident tickets are then escalated to the appropriate groups for resolution.</p> <p>10.6 The Enterprise Service Desk provides Help Desk Operations on a 24x7 basis. Service Desk operators utilize the formal ticket initiation and management tool to support incident management, escalation, and notification.</p> <p>10.7 Technology management support teams review incident root cause and resolution, and if necessary, update incident/problems with measures to prevent recurrence. Problems associated with critical and high impact incidents are tracked and managed through the formal ticket initiation and management tool.</p> <p>10.8 The Batch Services group utilizes an Incident Monitoring application to monitor the execution and completion of production job cycles in accordance with the production schedule. Controls are in place within the Incident Monitoring application to alert operators in the event of a job abnormally ending (abend). Incident tickets are automatically opened for job abends captured by the Incident Monitoring tool and is addressed appropriately for resolution.</p> <p>10.9 Requests for changes to the permanent job scheduler require the submission of a change ticket. Each change ticket must contain the install date/time, description of the job, system, and instructions for executing the production scheduling change. Appropriate approvals must be obtained in the formal ticket initiation and management tool before modifications are made to the job schedule.</p>

Management Criteria**Control Activities**

	<p>10.10 Batch job override requests for the Mainframe platform are entered into the production job stream after required approvals are obtained through the formal ticket initiation and management tool. Ad hoc command line changes to production batch jobs for the Distributed systems are performed by the Batch Services group. The request to submit a one-time change to the production batch jobs for the Distributed systems must be fully approved through the change management system before being implemented.</p> <p>10.11 Fidelity performs vendor oversight activities including review of the vendor's SOC 1 report to evaluate the related controls.</p>
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Management Criteria

Control Activities

Information Technology General Controls – Logical Security	
<p>11. Information technology general controls are in place to support the criteria above.</p>	<p>11.1 To obtain access to systems, a formal request is submitted and approved by appropriate personnel and provisioned as requested.</p> <p>11.2 For terminated users, a request is initiated and routed to the appropriate personnel for access removal in a timely manner.</p> <p>11.3 Following a validated job change, user access is recertified and removed or modified if necessary, in a timely manner.</p> <p>11.4 On a periodic basis, user access privileges are recertified and modifications are processed timely.</p> <p>11.5 On a periodic basis, job roles are recertified and modifications are processed timely.</p> <p>11.6 On a periodic basis, operational accounts are recertified and modifications are processed timely.</p> <p>11.7 System password configurations are reviewed on an annual basis to ensure compliance with enterprise standards. Exceptions are filed for noncompliant password settings and appropriate remediation measures are identified.</p> <p>11.8 To create or modify a Mainframe SAD, a formal request is submitted and approved by appropriate personnel prior to implementation.</p> <p>11.9 On a periodic basis, Mainframe Standard Access Definitions (SAD) are reviewed, updated and approved.</p> <p>11.10 Termination events are monitored through predefined business rules. Upon a validated termination, user access is automatically disabled on the domains.</p> <p>11.11 Mainframe security parameters are defined and reviewed annually for compliance with the Enterprise Security platform standards.</p> <p>11.12 Network system and Server password configurations have been implemented to prevent unauthorized access.</p> <p>11.13 A post server build validation is performed to confirm that UNIX and Windows password parameters are implemented, the built-in administrator account password is configured, and a Security Configuration Management tool is installed in accordance with firm policy.</p> <p>11.14 A Security Configuration Management tool is used to monitor defined password parameters and the built-in administrator account in the on-premise distributed server environment and report on exceptions to defined rules. Exceptions are researched and followed up.</p>

Management Criteria**Control Activities**

	<p>11.15 Access to the on-premise built-in administrator account is protected from unauthorized use via privileged access management tools.</p> <p>11.16 On an annual basis, a review of privileged access entitlements to the built-in administrator accounts is performed and recertified, and appropriate action is taken, if applicable.</p> <p>11.17 For the period of 6/3/2023 – 4/30/2024: On a periodic basis, privileged access to ServiceNow is recertified and modifications are processed timely to ensure privileged access is restricted to appropriate personnel.</p> <p>11.18 Privileged access to Accesshub is periodically reviewed and modifications are processed timely to confirm privileged access is restricted to appropriate personnel.</p> <p>11.19 For the period of 12/16/2023 - 4/30/2024: For user access reviews performed within Accesshub that have reached the due date, the review is automatically closed and access outside of the user's job role is marked for removal.</p> <p>11.20 A Security Configuration Management tool is used to monitor security configurations in the public cloud environment and report on deviations to defined rules. Deviations are researched and followed up.</p> <p>11.21 Firecall access procedures require specific access entitlements and a valid change or incident management ticket to obtain temporary firecall access to cloud platforms.</p> <p>11.22 Network vulnerability assessments are performed monthly for external systems and weekly for internal systems to identify critical vulnerabilities and escalated to the device or application owners for remediation.</p> <p>11.23 Prior to an application deployment to the public cloud, a request is submitted to setup an Amazon Account or Azure Subscription in line with the security configurations and parameters defined in policy. Requests are reviewed to ensure security configurations and parameters are in line with policy prior to the deployment of the application to the public cloud.</p> <p>11.24 Fidelity performs vendor oversight activities including review of the vendor's SOC 1 report to evaluate the related controls.</p>
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Management Criteria

Control Activities

Information Technology General Controls – Backup and Recovery	
<p>12. Information technology general controls are in place to support the criteria above.</p>	<p>12.1 Data supporting the financial applications is identified and the rotation and retention schedule for replication or backup is scheduled through the batch scheduling process. Requests for changes are approved by appropriate personnel according to policy.</p> <p>12.2 Critical mainframe systems are replicated at the alternative processing site. Software is used to monitor mainframe replication activity and volumes and issues are followed up on.</p> <p>12.3 Backup change requests are initiated and recorded through the formal ticket initiation and management tool and/or workflow systems in order to provide central control, approval, prioritization and reporting mechanisms to process changes for the backup production environment. The requester of each change is responsible for prioritizing the system backup, the backup schedule, and backup retention period. Server backup decommission requests must be authorized prior to decommissioning.</p> <p>12.4 The backup management system is configured to automatically backup system data and track the inventory of backup data of each backed up system.</p> <p>12.5 The backup management system generates backup reports showing the appropriate completion and failures of backup cycles. Storage Services personnel review the reports and resolve the failures appropriately.</p> <p>12.6 Reconciliation procedures are in place to confirm that tape backup data to be sent offsite is sent offsite. Any discrepancies are appropriately researched and resolved.</p> <p>12.7 Storage Services personnel perform a semi-annual inventory review of backup data to verify the physical location of the backed up data matches the location listed in the backup management systems. Any discrepancies are followed up on and resolved.</p> <p>12.8 Password changes are made on a semi-annual basis for FTG backup systems.</p> <p>12.9 Databases hosted by public cloud providers are set-up and configured to backup data periodically in line with corporate policy.</p> <p>12.10 Fidelity performs vendor oversight activities including review of the vendor's SOC 1 report to evaluate the related controls.</p>

