**1. Network Firewall Backup Automation**

**Epic**: Automate the backup process for FortiGate firewalls in Hub and Spoke locations.  
**Description**: Automate the backup of FortiGate firewalls to centralized SFTP servers with a retention policy of 35 days, ensuring up-to-date backups and quick restoration during incidents.

**Features:**

* **Centralized Backup Automation**
  + **Task 1**: Develop Ansible playbook to automate backup of firewall configurations.
    - *Description*: Write the Ansible playbook that fetches the configuration of FortiGate firewalls and pushes them to the centralized SFTP server.
  + **Task 2**: Set up automated deletion of backups older than 35 days.
    - *Description*: Implement a retention mechanism to delete backup files older than 35 days to ensure storage optimization and compliance with the retention policy.
  + **Task 3**: Implement backup monitoring and alerting system.
    - *Description*: Set up monitoring to ensure backups are performed successfully and generate alerts in case of failure.

**2. Network Firewall Configuration Automation**

**Epic**: Automate the deployment and modification of FortiGate firewall configurations.  
**Description**: Automate firewall configuration deployment for the LI office using Ansible, integrating centralized CICD pipelines for new device deployment and configuration changes.

**Features:**

* **Automated Configuration Deployment**
  + **Task 1**: Create Ansible playbook for firewall configuration deployment.
    - *Description*: Write an Ansible playbook that deploys the desired configuration on FortiGate devices.
  + **Task 2**: Implement CI/CD pipeline for configuration updates.
    - *Description*: Set up a pipeline in Azure DevOps for pushing updates to firewalls in a controlled and automated manner.
  + **Task 3**: Validate deployment process in staging environment.
    - *Description*: Test the automated configuration deployment in a non-production environment to ensure smooth execution.

**3. Automated Firewall Policy Auditing**

**Epic**: Automate firewall policy auditing for security compliance.  
**Description**: Automate auditing of firewall security policies to identify unused rules, aiding in compliance reviews like PCI and ISO.

**Features:**

* **Policy Auditing and Cleanup**
  + **Task 1**: Develop Python scripts for automated policy auditing.
    - *Description*: Write Python scripts using Selenium to automate the review of firewall policies via the web interface.
  + **Task 2**: Automate the removal of unused firewall policies.
    - *Description*: Create automation to identify and remove unused firewall policies, reducing complexity and increasing security.
  + **Task 3**: Integrate auditing with compliance frameworks (e.g., PCI, ISO).
    - *Description*: Ensure the automated policy audits adhere to compliance standards like PCI and ISO by generating compliant reports.

**4. Automated Mandatory Software/OS Auditing**

**Epic**: Automate the auditing of mandatory software and OS configurations for compliance.  
**Description**: Set up an automation pipeline to verify the status of mandatory packages and OS validity for compliance audits like PCI and ISO.

**Features:**

* **Software and OS Compliance Checks**
  + **Task 1**: Develop Python scripts for verifying mandatory software installation.
    - *Description*: Create a Python-based script to check whether all mandatory software is installed on servers.
  + **Task 2**: Automate OS validity checks.
    - *Description*: Implement a process to verify the operating system version and patch level to ensure compliance.
  + **Task 3**: Generate automated compliance reports.
    - *Description*: Set up automated reporting to verify compliance status and generate audit-ready reports.

**5. Automated Storage UI Dashboard Report**

**Epic**: Automate the generation of a storage dashboard report.  
**Description**: Set up a Python-based automated report for monitoring storage infrastructure, improving proactive monitoring.

**Features:**

* **Automated Storage Reporting**
  + **Task 1**: Develop Selenium script to pull data from the storage UI.
    - *Description*: Write a Selenium-based Python script to scrape and collect relevant data from the storage user interface.
  + **Task 2**: Automate the generation of storage usage reports.
    - *Description*: Implement a script that generates detailed storage usage reports on a regular schedule.
  + **Task 3**: Integrate storage report with monitoring tools.
    - *Description*: Set up integration with monitoring dashboards (e.g., Grafana) for real-time visibility into storage statistics.

**6. Network Switch Backup Automation**

**Epic**: Automate the backup process for network switch configurations.  
**Description**: Implement an automation pipeline for network switch configuration backup using Ansible, ensuring quick restoration in case of failure.

**Features:**

* **Switch Configuration Backup Automation**
  + **Task 1**: Write Ansible playbook for network switch backup.
    - *Description*: Develop an Ansible playbook to back up network switch configurations to a centralized server.
  + **Task 2**: Set up retention policies for backup files.
    - *Description*: Implement retention policies that automatically delete old backup files to optimize storage.
  + **Task 3**: Set up backup monitoring and alerts.
    - *Description*: Monitor the backup process for success and failure, and configure alerts to notify teams of issues.

**7. Cloud Centralized Cost Dashboard (Beta)**

**Epic**: Automate cloud cost monitoring and visualization.  
**Description**: Develop a centralized Grafana dashboard for cloud cost tracking, helping optimize spending across resource groups.

**Features:**

* **Cloud Cost Visualization**
  + **Task 1**: Create Grafana dashboard for cloud cost tracking.
    - *Description*: Set up a Grafana dashboard to visualize overall cloud costs and breakdowns by resource group.
  + **Task 2**: Integrate Grafana with cloud billing APIs.
    - *Description*: Integrate the dashboard with cloud provider APIs to automatically fetch and display cost data.
  + **Task 3**: Set up notifications for cost anomalies.
    - *Description*: Configure alerting in Grafana to notify stakeholders when cloud costs exceed thresholds.

**8. Cloud Centralized Event Box Dashboard (Beta)**

**Epic**: Automate cloud event monitoring and notification.  
**Description**: Develop a Grafana dashboard for live cloud event monitoring, helping track provisioning by service accounts.

**Features:**

* **Live Event Monitoring**
  + **Task 1**: Set up Grafana for real-time cloud event tracking.
    - *Description*: Configure Grafana dashboards to display live event data from cloud environments.
  + **Task 2**: Implement event filtering by service account.
    - *Description*: Enable filtering by service accounts or users to track resource provisioning and changes.
  + **Task 3**: Create alerting rules for event anomalies.
    - *Description*: Set up alerts for specific events or patterns, helping teams react quickly to cloud-related incidents.

**9. AI/ML-based VM Capacity Forecasting (Beta)**

**Epic**: Automate virtual machine capacity forecasting using AI/ML.  
**Description**: Implement an AI/ML-based capacity forecasting model for virtual machines, using LSTM models to predict capacity needs with high accuracy.

**Features:**

* **Capacity Forecasting Automation**
  + **Task 1**: Develop an AI model using LSTM for capacity forecasting.
    - *Description*: Build and train a machine learning model based on LSTM (Long Short-Term Memory) for forecasting VM capacity requirements.
  + **Task 2**: Validate model accuracy and retrain periodically.
    - *Description*: Validate the model's performance using test data, ensuring the forecasts are accurate. Retrain as necessary.
  + **Task 3**: Integrate forecasting with resource allocation tools.
    - *Description*: Integrate capacity forecasts into resource management systems for proactive resource allocation.

**10. FortiAnalyzer-like In-house Centralized Log Dashboard**

**Epic**: Implement centralized logging for FortiGate firewalls.  
**Description**: Create an in-house ELK stack solution to collect and analyze FortiGate firewall logs, replicating FortiAnalyzer features.

**Features:**

* **Centralized Logging Setup**
  + **Task 1**: Implement Filebeat for log collection from FortiGate firewalls.
    - *Description*: Set up Filebeat to collect logs from FortiGate firewalls and forward them to Elasticsearch for analysis.
  + **Task 2**: Develop Elasticsearch pipelines for log analysis.
    - *Description*: Create Elasticsearch pipelines to process and analyze incoming firewall logs for relevant security events.
  + **Task 3**: Create Kibana dashboards for log visualization.
    - *Description*: Design and implement dashboards in Kibana to visualize and monitor FortiGate firewall logs in real-time.

**11. Server Hygiene Check Automation**

**Epic**: Automate compliance checks for Windows and Linux servers.  
**Description**: Implement automated server hygiene checks to ensure compliance with organizational policies, improve efficiency, and reduce manual errors.

**Features:**

* **Automated Server Compliance Checks**
  + **Task 1**: Develop PowerShell scripts for Windows server hygiene checks.
    - *Description*: Create scripts to verify installed software, patch levels, and configuration compliance on Windows servers.
  + **Task 2**: Develop bash/Python scripts for Linux server hygiene checks.
    - *Description*: Automate similar compliance checks on Linux servers for software packages, configurations, and updates.
  + **Task 3**: Automate reporting of server hygiene results.
    - *Description*: Generate and distribute reports summarizing compliance status for auditing purposes.

**12. Dell Unisphere Health Status Automation**

**Epic**: Automate health status monitoring for Dell Unisphere.  
**Description**: Enable automated reporting of health status from Dell Unisphere systems to improve proactive monitoring and system reliability.

**Features:**

* **Health Monitoring Automation**
  + **Task 1**: Develop Selenium-based Python scripts to fetch health metrics.
    - *Description*: Create scripts to log in to Dell Unisphere and extract system health data programmatically.
  + **Task 2**: Set up automated email notifications for health anomalies.
    - *Description*: Configure alerts for critical issues detected in the health reports to enable timely action.
  + **Task 3**: Integrate health status into monitoring dashboards.
    - *Description*: Visualize extracted health data on a centralized dashboard for better visibility.

**13. Historical CPU and Memory Utilization Dashboard**

**Epic**: Develop a centralized dashboard for historical CPU and memory utilization data.  
**Description**: Optimize infrastructure planning by visualizing historical VM resource usage using Prometheus and Kibana.

**Features:**

* **Resource Utilization Dashboard**
  + **Task 1**: Integrate Prometheus for VM metric collection.
    - *Description*: Configure Prometheus to collect CPU and memory utilization data from virtual machines.
  + **Task 2**: Create Kibana dashboards for historical metrics visualization.
    - *Description*: Design dashboards to display long-term trends in VM resource usage.
  + **Task 3**: Enable export and sharing of utilization reports.
    - *Description*: Implement mechanisms to export data and share insights with stakeholders.

**14. Power BI Refresh Data Dashboard Automation**

**Epic**: Automate refresh tracking for Power BI dashboards.  
**Description**: Improve reporting accuracy and transparency by tracking and visualizing the refresh status of Power BI dashboards.

**Features:**

* **Dashboard Refresh Automation**
  + **Task 1**: Develop Python scripts to fetch Power BI refresh status.
    - *Description*: Automate data retrieval from Power BI APIs to track dashboard refresh progress.
  + **Task 2**: Create PowerShell scripts for automated status updates.
    - *Description*: Use PowerShell to update refresh status in real time for better visibility.
  + **Task 3**: Visualize refresh status on a monitoring dashboard.
    - *Description*: Display refresh statistics on a unified monitoring dashboard.

**15. VPLEX Health Status Automation**

**Epic**: Automate monitoring of VPLEX system health.  
**Description**: Streamline VPLEX health checks to ensure quick detection of issues and improve storage reliability.

**Features:**

* **VPLEX Health Automation**
  + **Task 1**: Develop Selenium-based Python scripts for VPLEX data collection.
    - *Description*: Automate login and data retrieval from VPLEX dashboards.
  + **Task 2**: Generate automated health status reports.
    - *Description*: Compile and distribute reports summarizing VPLEX system health.
  + **Task 3**: Set up alerts for critical issues detected in health checks.
    - *Description*: Automate notifications for any detected anomalies or performance degradation.

**16. FortiGate Firewall Configuration Change Detection**

**Epic**: Automate detection of FortiGate firewall configuration changes.  
**Description**: Implement a pipeline to track and compare configuration changes, enhancing security and reducing manual audit efforts.

**Features:**

* **Configuration Change Monitoring**
  + **Task 1**: Develop Ansible scripts to fetch and compare firewall configurations.
    - *Description*: Automate configuration snapshots and compare them at scheduled intervals.
  + **Task 2**: Implement reporting for detected configuration changes.
    - *Description*: Generate reports highlighting configuration changes throughout the day.
  + **Task 3**: Integrate anomaly detection with alerting systems.
    - *Description*: Set up alerts for unauthorized or unexpected configuration changes.

**17. Infra Auto-Healing**

**Epic**: Automate packet loss monitoring and implement self-healing mechanisms.  
**Description**: Ensure infrastructure stability by automating the resolution of packet loss issues, reducing downtime.

**Features:**

* **Self-Healing Automation**
  + **Task 1**: Develop Python scripts for packet loss detection.
    - *Description*: Monitor network and server performance for packet loss events.
  + **Task 2**: Automate resolution of common packet loss issues.
    - *Description*: Implement scripts to reboot or reconfigure affected systems automatically.
  + **Task 3**: Integrate self-healing scripts with monitoring tools.
    - *Description*: Ensure actions are triggered automatically by monitoring alerts.

**18. Automated Switch Route Policy Adjustment**

**Epic**: Automate dynamic adjustments of firewall route policies.  
**Description**: Optimize network traffic by dynamically modifying route policies based on packet loss alerts.

**Features:**

* **Route Policy Adjustment Automation**
  + **Task 1**: Create scripts to detect and analyze route performance.
    - *Description*: Use Python and Ansible to identify suboptimal routes.
  + **Task 2**: Automate updates to route policies.
    - *Description*: Dynamically adjust route configurations based on performance metrics.
  + **Task 3**: Validate changes in a test environment.
    - *Description*: Test the automated route adjustments before deploying them to production.

**19. Hitachi Health Status Automation**

**Epic**: Automate health monitoring for Hitachi systems.  
**Description**: Automate data collection and reporting from Hitachi systems to enhance reliability and prevent failures.

**Features:**

* **Hitachi Monitoring Automation**
  + **Task 1**: Develop Python scripts for Hitachi health data extraction.
    - *Description*: Automate the retrieval of health metrics from Hitachi management interfaces.
  + **Task 2**: Generate and distribute automated health reports.
    - *Description*: Compile health data into reports and share them with relevant teams.
  + **Task 3**: Set up alerting for critical health anomalies.
    - *Description*: Automate the detection and notification of critical health issues.

**20. Dell Unity CPU SPA & SPB Graph Automation**

**Epic**: Automate CPU utilization reporting for Dell Unity servers.  
**Description**: Automate the collection and visualization of CPU utilization data, improving capacity planning.

**Features:**

* **CPU Utilization Reporting**
  + **Task 1**: Develop Python scripts to extract CPU utilization data.
    - *Description*: Automate the collection of CPU SPA and SPB metrics from Dell Unity servers.
  + **Task 2**: Visualize utilization data in graphs.
    - *Description*: Use Python libraries to generate and email CPU utilization graphs.
  + **Task 3**: Automate report distribution to stakeholders.
    - *Description*: Set up scripts to email graphs and reports to relevant teams.

**21. Syslog Centralized Dashboard**

**Epic**: Implement centralized Syslog management for improved log monitoring.  
**Description**: Use the ELK stack to centralize Syslog data, streamline troubleshooting, and enhance operational efficiency.

**Features:**

* **Syslog Dashboard Implementation**
  + **Task 1**: Configure Filebeat to collect Syslog data.
    - *Description*: Set up Filebeat agents to forward Syslog messages to Elasticsearch.
  + **Task 2**: Develop Kibana dashboards for log visualization.
    - *Description*: Design dashboards to display and analyze Syslog data in real-time.
  + **Task 3**: Set up log analysis pipelines in Elasticsearch.
    - *Description*: Configure pipelines to process and analyze Syslog data for relevant insights.