SOP: Data Backup and Restoration

Purpose:

The purpose of this SOP is to provide guidelines for the company to effectively backup and restore user data, critical infrastructure configurations, and hosted data.

Scope:

This SOP applies to the MSP IT Support Team and all employees at the company.

Responsibilities:

Support Team: Responsible for implementing and maintaining the backup and restore process.

Employees: Responsible for ensuring their data is stored in the designated locations for backup.

Prerequisites:

Non-technical employees have functional workstations running Windows 10 .

Software Developers have functional laptops running Windows 10 with Ubuntu Virtual Machines running on VirtualBox Manager.

A Linux server and Windows server are running at the company office, each with a respective failover server.

Procedure:

Backup Process:

- **Employee Data Backup**
    - The Support Team will configure the Windows file server as the central location for employee data backup.

- ○ Employees will be instructed to save their critical data in designated folders on their laptops and/or workstations that will be mapped to the Windows file server.
- ○ The Support Team will schedule regular backups of the file server using Veeam for Windows Servers
  - ■ Incremental backups will be performed daily at 0200. Full backups will be conducted on a weekly basis at 0230 on Sundays.
  - ■ Backup Data will be stored in both an identical failover Windows server located at the company office and an offsite back-up server managed by the MSP.
- **Product Data Backup**
  - ○ The Support Team will configure the Linux Git Server as the central location for product data and updates to be sent to clients.
  - ○ Software Developers will be instructed to save their critical product data in designated directories in their Ubuntu Virtual Machines that are mapped to the Linux server.
  - ○ The Support Team will schedule Snapshots of Ubuntu Virtual Machines at 0200 using Crontab.
    - ■ Snapshots will be stored on the Linux server
  - ○ The Support Team will schedule regular backups of the Linux Git Server using Veeam for Linux Servers
    - ■ Incremental backups will be performed daily at 0200. Full backups will be conducted on a weekly basis at 0230 on Sundays.
    - ■ Backup Data will be stored in both an identical failover Linux server located at the company office and an offsite back-up server managed by the MSP.
- **Critical Infrastructure Configurations Backup**
  - ○ The Support team will document and maintain a repository of critical infrastructure configurations, including network devices, servers, and firewalls.
  - ○ Configurations will be backed up after any updates to the infrastructure and stored in the MSP off-site backup server.
    - ■ Backup schedules for critical infrastructure configurations will be determined based on the frequency of changes and the importance of the configurations.

Restore Process

- **Employee Data Restore**
  - ○ In the event of data loss or corruption, employees should contact the Support Team immediately.

- ○ The Support Team will access the file server and restore the required data from the most recent backup.
  - ■ If data is corrupted, the Support Team will utilize Veeam to recover the files and synchronize the data back to employees workspace.
- **Product Data Restore**
  - ○ In the event of data loss or corruption of product data, employees should contact the Support Team immediately.
  - ○ The Support Team will utilize either Virtual Box snapshots to restore data on VMs to its previous state.
  - ○ If the lost or corrupted data is on the Linux Git Server itself, the Support team will restore it using Veeam backups.
- **Critical Infrastructure Configurations Restore**
  - ○ In case of critical infrastructure failure or misconfiguration, employees should contact the Support Team immediately.
  - ○ The Support Team will utilize the backed-up configurations stored on the MSP off-site server
  - ○ The IT team will restore the relevant configurations to the affected devices or servers, ensuring the system is restored to its previous working state.
- **Server Restore**
  - ○ If either the Windows Server or Linux Git Server fail, the Support Team will ensure that their respective failover servers are functioning in their place.
  - ○ If all servers at the Company Office site have failed, the Support Team will restore data from MSP off-site servers, as requested by employees.

Security and Compliance:

- The Support Team will ensure that backups are stored in a secure and encrypted format to protect sensitive data.
- Access controls will be implemented to restrict unauthorized access to the backup files and configurations.
- The backup storage locations will be regularly monitored for any security vulnerabilities or breaches.
- Compliance with relevant data protection regulations and company policies will be maintained throughout the backup and restore process.

Incident Management:

- In the event of any backup failures, errors, or issues, the Support Team will promptly investigate and resolve the problem.
- Employees will notify the Support Team if they are aware of any backup errors or issues.

- Incident reports will be generated for any backup or restore-related incidents and shared with the management team for review and action.
- Lessons learned from incidents will be used to improve the backup and restore procedures and prevent future occurrences.

Training and Awareness:

- The Support Team will provide training sessions to employees during onboarding and on a yearly basis thereafter, to educate them on the importance of data backup, restore procedures, and their responsibilities in maintaining data integrity.
- Regular communication and reminders will be sent to employees to reinforce the backup and restore best practices and ensure compliance.

Documentation

- The Support Team will maintain comprehensive documentation of the backup and restore procedures, including step-by-step instructions, configuration settings, and any specific considerations.
- The documentation will be regularly reviewed and updated to reflect any changes or improvements to the backup and restore process.
- All employees will have access to the documentation to ensure they understand their role in the backup and restore procedures.

References:

Virtual Box Snapshot Automation:
https://github.com/Meru3m/virtualbox-snapshotter

Veeam: [Windows Server](#) [Linux Server](#)

Definitions:

- MSP - Managed Service Provider
- IT - Information Technology
- SOP -- "what, when, why"; could be multiple SOPs to support a specific policy
- Work Instructions -- "how"; in-depth, step-by-step directions for a particular task
- Incremental Backup
- Full Backup

Revision History:

5/15/2023 -- "SOP: Data Back-up and Restoration" created by Jon McMullin