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CATEGORY: WindowsTime

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Time synchronization is foundational for authentication, logging, auditing, Kerberos operations, distributed systems, and compliance. These SOPs ensure every time-related action performed through RDAM Script Wizard is **controlled**, **auditable**, and aligned with **enterprise operational and security standards**.

SOP 1 – Get System Time Configuration

Script Name: Get System Time Configuration **Category:** WindowsTime **Version:** 1.0 **Approved By:** IT Operations / Security

1. Purpose

This script retrieves the system's current time configuration, including NTP servers, sync status, and time zone.

2. Scope

- Windows servers and workstations
- Local or remote systems (if supported)

3. Definitions

- **NTP:** Network Time Protocol.
- **Time Provider:** Source used for synchronization.

4. Preconditions

- Operator must have permission to query system time settings.

5. Required Inputs

- None

6. Procedure Steps

1. Retrieve Time Zone
    - Extract current system time zone.
2. Retrieve NTP Configuration
    - Query Windows Time service for:
        - NTP server list
        - Sync type
        - Last sync time
        - Polling interval
3. Retrieve Service Status
    - Check if W32Time is running.
4. Output Formatting
    - Present structured time configuration summary.
5. Logging
    - Log operator and timestamp.

7. Expected Output

- Consolidated system time configuration.

8. Post-Execution Validation

- Operator may verify via `w32tm /query`.

9. Error Handling

- Access denied
- W32Time service unavailable

10. Security Considerations

- Time configuration affects authentication and logging integrity.

11. Audit Logging Requirements

- Operator ID
- Timestamp

12. Organizational Benefit Statement

This script provides a consistent, auditable method for retrieving time configuration, supporting troubleshooting and compliance.

SOP 2 – Sync System Time with NTP Server

Script Name: Sync System Time with NTP Server **Category:** WindowsTime

1. Purpose

This script forces the system to synchronize with a specified NTP server, supporting troubleshooting, drift correction, and compliance.

2. Scope

- Windows servers and workstations
- Domain-joined and standalone systems

3. Definitions

- **Manual Sync:** Immediate time synchronization.

4. Preconditions

- Operator must have administrative rights.
- NTP server must be reachable.

5. Required Inputs

- NTP server address

6. Procedure Steps

1. Input Collection
    - Wizard prompts for NTP server.
2. Configuration Update
    - Set system to use specified NTP server.
3. Sync Operation
    - Force immediate time synchronization.
4. Post-Sync Verification
    - Confirm sync succeeded.

    - Retrieve new last-sync timestamp.
5. Logging
    - Log NTP server, operator, timestamp.

7. Expected Output

- Confirmation of successful time synchronization.

8. Post-Execution Validation

- Operator may verify via `w32tm /query /status`.

9. Error Handling

- NTP server unreachable
- Access denied
- Sync failure

10. Security Considerations

- Using untrusted NTP servers may compromise time integrity.

11. Audit Logging Requirements

- Operator ID
- NTP server
- Timestamp

12. Organizational Benefit Statement

This script ensures time synchronization is performed safely and consistently, supporting authentication, logging, and compliance.

SOP 3 – Set System Time Zone

Script Name: Set System Time Zone **Category:** WindowsTime

1. Purpose

This script updates the system time zone, supporting regional configuration, application behavior, and compliance.

2. Scope

- Windows servers and workstations

- All supported Windows time zones

3. Definitions

- **Time Zone:** Regional offset and DST rules.

4. Preconditions

- Operator must have administrative rights.
- Time zone must be valid.

5. Required Inputs

- Time zone name

6. Procedure Steps

1. Input Collection
    - Wizard prompts for time zone.
2. Validation
    - Confirm time zone is valid.
3. Update Operation
    - Apply new time zone.
4. Post-Update Verification
    - Confirm system reflects new time zone.
5. Logging
    - Log time zone, operator, timestamp.

7. Expected Output

- Confirmation of time zone update.

8. Post-Execution Validation

- Operator may verify via `Get-TimeZone`.

9. Error Handling

- Invalid time zone
- Access denied

10. Security Considerations

- Incorrect time zones may affect logging and scheduled tasks.

11. Audit Logging Requirements

- Operator ID
- Time zone
- Timestamp

12. Organizational Benefit Statement

This script ensures time zone changes are performed safely and consistently, supporting regional configuration and application behavior.

SOP 4 – Force Windows Time Service Resync

Script Name: Force Windows Time Service Resync **Category:** WindowsTime

1. Purpose

This script forces the Windows Time service to immediately resynchronize with its configured time source.

2. Scope

- Windows servers and workstations
- Domain-joined and standalone systems

3. Definitions

- **Resync:** Immediate time correction.

4. Preconditions

- Operator must have administrative rights.
- W32Time service must be running.

5. Required Inputs

- None

6. Procedure Steps

1. Resync Operation

    - Trigger immediate resynchronization.
2. Status Retrieval
    - Retrieve sync status and last sync time.
3. Output Formatting
    - Present structured resync summary.
4. Logging
    - Log operator and timestamp.

7. Expected Output

- Confirmation of resync and updated status.

8. Post-Execution Validation

- Operator may verify via `w32tm /resync`.

9. Error Handling

- W32Time not running
- Access denied
- Sync failure

10. Security Considerations

- Frequent resyncs may cause minor time jumps.

11. Audit Logging Requirements

- Operator ID
- Timestamp

12. Organizational Benefit Statement

This script provides a controlled, auditable method for forcing time resynchronization, supporting troubleshooting and compliance.

SOP 5 – Restart Windows Time Service (W32Time)

Script Name: Restart Windows Time Service **Category:** WindowsTime

1. Purpose

This script restarts the Windows Time service, supporting troubleshooting, recovery, and configuration changes.

2. Scope

- Windows servers and workstations
- W32Time service

3. Definitions

- **Service Restart:** Stop followed by Start.

4. Preconditions

- Operator must have administrative rights.

5. Required Inputs

- None

6. Procedure Steps

1. Stop Operation
    - Stop W32Time service.
2. Start Operation
    - Start W32Time service.
3. Post-Restart Verification
    - Confirm service is running.
    - Retrieve sync status.
4. Logging
    - Log operator and timestamp.

7. Expected Output

- Confirmation that W32Time was restarted.

8. Post-Execution Validation

- Operator may verify via `Get-Service W32Time`.

9. Error Handling

- Access denied
- Service stop failure
- Service start failure

10. Security Considerations

- Restarting time service may temporarily affect sync accuracy.

11. Audit Logging Requirements

- Operator ID
- Timestamp

12. Organizational Benefit Statement

This script ensures time-service restarts are performed safely and consistently, supporting troubleshooting and configuration management.