

CATEGORY: WindowsTimeService (W32Time)

Time-synchronization operations directly affect authentication, Kerberos, logging accuracy, compliance, distributed systems, and domain stability. These SOPs ensure every time-service action performed through RDAM Script Wizard is **controlled**, **auditable**, and aligned with enterprise security and operational standards.

SOP 1 – Get Windows Time Service Status

1. Purpose

Retrieve the operational state of the Windows Time (W32Time) service.

2. Scope

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

3. Preconditions

- **Operator must have permission to query services**

4. Required Inputs

- **None**

5. Procedure Steps

- **Service Query** – Retrieve current W32Time service state.
- **Startup Type Check** – Automatic, Manual, or Disabled.
- **Output Formatting** – Present structured service status.
- **Logging** – Operator and timestamp.

6. Expected Output

- W32Time service status

7. Error Handling

- Access denied
- Service not found

8. Security Considerations

- Incorrect time sync affects authentication and logging

9. Audit Logging Requirements

- Operator ID
- Timestamp

10. Organizational Benefit Statement

This procedure ensures visibility into time-service availability, supporting authentication reliability and compliance.

SOP 2 – Restart Windows Time Service

1. Purpose

Restart the Windows Time service to resolve synchronization issues.

2. Scope

- Windows servers and workstations

3. Preconditions

- Operator must have administrative rights

4. Required Inputs

- None

5. Procedure Steps

- **Stop Operation** – Stop the W32Time service.
- **Start Operation** – Restart the service.
- **Post-Restart Verification** – Confirm service is running.

- Logging

6. Expected Output

- W32Time service restarted successfully

7. Error Handling

- Service stop/start failure
- Access denied

8. Security Considerations

- Restarting may temporarily disrupt time sync

9. Audit Logging Requirements

- Operator ID
- Timestamp

10. Organizational Benefit Statement

This procedure restores time-service functionality quickly and safely, supporting authentication and system stability.

SOP 3 – Get Time Synchronization Source

1. Purpose

Retrieve the current time source (NTP server, domain controller, hardware clock).

2. Scope

- Domain-joined and standalone systems

3. Preconditions

- Operator must have permission to query time configuration

4. Required Inputs

- None

5. Procedure Steps

- **Source Query** – Retrieve current time provider.
- **Attribute Extraction** – NTP server, poll interval, sync status.

- **Output Formatting**
- **Logging**

6. Expected Output

- **Current time synchronization source**

7. Error Handling

- **Provider not found**
- **Access denied**

8. Security Considerations

- **Incorrect time source may cause domain failures**

9. Audit Logging Requirements

- **Operator ID**
- **Timestamp**

10. Organizational Benefit Statement

This procedure ensures administrators can verify authoritative time sources, supporting domain health and compliance.

SOP 4 – Set NTP Server

1. Purpose

Configure the system to use a specific NTP server or list of servers.

2. Scope

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

3. Preconditions

- **Operator must have administrative rights**
- **NTP server must be approved by policy**

4. Required Inputs

- **NTP server(s)**

- **Optional:** Poll interval

5. Procedure Steps

- **Input Collection**
- **Validation** – Confirm server format.
- **Registry Update** – Apply NTP configuration.
- **Service Restart** – Restart W32Time to apply changes.
- **Post-Update Verification**
- **Logging**

6. Expected Output

- NTP server configuration applied successfully

7. Error Handling

- Invalid server format
- Access denied

8. Security Considerations

- Untrusted NTP sources can compromise system integrity

9. Audit Logging Requirements

- Operator ID
- NTP server(s)
- Timestamp

10. Organizational Benefit Statement

This procedure ensures time synchronization is aligned with enterprise standards, supporting security and operational consistency.

SOP 5 – Force Time Synchronization

1. Purpose

Trigger an immediate time synchronization event.

2. Scope

- Windows servers and workstations

3. Preconditions

- Operator must have administrative rights
- Time source must be reachable

4. Required Inputs

- None

5. Procedure Steps

- Sync Command Execution – Force resync with configured source.
- Status Retrieval – Capture sync result and offset.
- Output Formatting
- Logging

6. Expected Output

- Time synchronized successfully

7. Error Handling

- Source unreachable
- Access denied

8. Security Considerations

- Large time jumps may disrupt services

9. Audit Logging Requirements

- Operator ID
- Timestamp

10. Organizational Benefit Statement

This procedure ensures accurate system time, supporting authentication, logging accuracy, and distributed-system reliability.

SOP 6 – Repair Windows Time Service Configuration

1. Purpose

Reset and repair W32Time configuration to resolve corruption or sync failures.

2. Scope

- Windows servers and workstations

3. Preconditions

- Operator must have administrative rights

4. Required Inputs

- None

5. Procedure Steps

- Stop W32Time Service
- Reset Configuration – Restore default registry values.
- Re-register Service – Rebuild W32Time service settings.
- Restart Service
- Post-Repair Verification
- Logging

6. Expected Output

- Time service repaired and functional

7. Error Handling

- Service restart failure
- Access denied

8. Security Considerations

- Resetting configuration may remove custom NTP settings

9. Audit Logging Requirements

- Operator ID
- Timestamp

10. Organizational Benefit Statement

This procedure restores reliable time synchronization, preventing authentication failures and ensuring system integrity.