SOUTHGATE TERMINAL

Port Operations Security Documentation

Evidence Transfer and Chain-of-Custody Procedures

Document Information

Document Type: Forensic Evidence Management Framework **Intended Users:** Technical Team, Legal Team, Incident Coordinator

Usage Context: Evidence collection, preservation, and transfer during cyber

incidents

Related Scenarios: VM investigations, log analysis, forensic chain-of-custody

Purpose

This document establishes formal procedures for collecting, preserving, transferring, and maintaining chain-of-custody for digital evidence during cybersecurity incidents, ensuring legal admissibility and investigative integrity.

When to Use These Procedures

- Suspected security breaches requiring evidence preservation
- System anomalies needing forensic investigation
- Preparation for potential legal proceedings
- Regulatory compliance requiring evidence documentation
- Cross-system investigations requiring evidence correlation

Legal Framework and Requirements

Chain-of-Custody Definition

Chain-of-custody is the chronological documentation that records the sequence of custody, control, transfer, analysis, and disposition of evidence. It establishes: - \mathbf{WHO} had possession of evidence - \mathbf{WHAT} was done with the evidence - \mathbf{WHEN} actions were performed - \mathbf{WHERE} evidence was located - \mathbf{WHY} evidence was collected/transferred

Legal Admissibility Requirements

For digital evidence to be legally admissible: - **Authenticity:** Evidence must be shown to be what it purports to be - **Reliability:** Evidence collection methods must be sound and scientifically accepted - **Completeness:** Evidence must not

be altered or selectively edited - **Chain-of-Custody:** Continuous documentation of evidence handling

Evidence Integrity Protection

- Hash Verification: SHA256 hashes generated before and after each transfer
- Write Protection: Evidence stored in read-only format when possible
- Access Logging: All access to evidence documented with timestamps
- Storage Security: Evidence stored in secure, access-controlled environment

Evidence Collection Standards

Digital Evidence Categories

PRIMARY EVIDENCE (Direct incident artifacts)

- System Logs: Authentication, system, application, and security logs
- Configuration Files: System configurations at time of incident
- Memory Dumps: System memory snapshots (if captured)
- Network Captures: Network traffic logs and packet captures
- File System Artifacts: Suspicious files, scripts, or modified system files

SECONDARY EVIDENCE (Supporting documentation)

- Screenshots: Visual evidence of system states or anomalies
- Documentation: Investigation notes, timelines, and analysis
- Communication Records: Internal communications about incident
- Procedure Records: Documentation of investigation steps taken

METADATA EVIDENCE (Evidence about evidence)

- Hash Values: Cryptographic hashes of all evidence files
- Timestamps: Collection, modification, and access times
- File Attributes: Permissions, ownership, and size information
- Collection Methods: Tools and procedures used for evidence collection

Evidence Collection Procedures

Phase 1: Evidence Identification (0-10 minutes)

```
# Document system state immediately
cat > /tmp/evidence_collection_start_$(date +%Y%m%d_%H%M%S).txt <<EOF
EVIDENCE COLLECTION INITIATED
Date/Time: $(date)
Collector: $(whoami)</pre>
```

```
System: $(hostname)
Incident ID: [INCIDENT_ID]
INITIAL SYSTEM STATE:
Uptime: $(uptime)
Current Users: $(who)
Running Processes: $(ps aux | wc -1) processes
Disk Usage: $(df -h / | tail -1)
Network Connections: $(netstat -an | grep ESTABLISHED | wc -1) active
EVIDENCE TARGETS IDENTIFIED:
- Log files requiring preservation
- Configuration files of interest
- Suspicious files or scripts
- System state information
EOF
Phase 2: Evidence Preservation (10-30 minutes)
# Create evidence collection directory structure
mkdir -p /tmp/evidence_collection_$(date +%Y%m%d_%H%M%S)/{logs,configs,artifacts,hashes,meta
EVIDENCE_DIR="/tmp/evidence_collection_$(date +%Y%m%d_%H%M%S)"
# Preserve logs with hash generation
for logfile in /var/log/auth.log /var/log/syslog /var/log/kern.log; do
    if [ -f "$logfile" ]; then
        # Generate hash before copying
        sha256sum "$logfile" >> "$EVIDENCE_DIR/hashes/pre_collection_hashes.txt"
        # Copy with timestamp preservation
        cp -p "$logfile" "$EVIDENCE_DIR/logs/$(basename $logfile)_$(date +%Y%m%d_%H%M%S)"
        # Generate hash after copying
        sha256sum "$EVIDENCE_DIR/logs/$(basename $logfile)_$(date +%Y%m%d_%H%M%S)" >> "$EVII
        # Document collection
        echo "$(date): Collected $logfile" >> "$EVIDENCE_DIR/metadata/collection_log.txt"
    fi
done
Phase 3: Evidence Documentation (30-45 minutes)
# Create comprehensive evidence manifest
cat > "$EVIDENCE_DIR/EVIDENCE_MANIFEST.txt" <<EOF</pre>
DIGITAL EVIDENCE MANIFEST
_____
```

```
INCIDENT INFORMATION:
Incident ID: [INCIDENT_ID]
Collection Date: $(date)
Collector: $(whoami)
System: $(hostname)
Collection Tool: Manual collection with standard Linux tools
EVIDENCE COLLECTED:
FOF
# Document each piece of evidence
find "$EVIDENCE_DIR" -type f -not -path "*/EVIDENCE_MANIFEST.txt" | while read file; do
    echo "File: $(basename $file)" >> "$EVIDENCE DIR/EVIDENCE MANIFEST.txt"
   echo "Path: $file" >> "$EVIDENCE_DIR/EVIDENCE_MANIFEST.txt"
   echo "Size: $(stat -c%s $file) bytes" >> "$EVIDENCE_DIR/EVIDENCE_MANIFEST.txt"
    echo "Hash: $(sha256sum $file | cut -d' ' -f1)" >> "$EVIDENCE_DIR/EVIDENCE_MANIFEST.txt"
    echo "Collected: $(stat -c%y $file)" >> "$EVIDENCE_DIR/EVIDENCE_MANIFEST.txt"
    echo "---" >> "$EVIDENCE_DIR/EVIDENCE_MANIFEST.txt"
done
# Create chain-of-custody form
cat > "$EVIDENCE_DIR/CHAIN_OF_CUSTODY.txt" <<EOF</pre>
CHAIN OF CUSTODY RECORD
_____
CASE INFORMATION:
Case Number: [INCIDENT_ID]
Incident Type: Cybersecurity Incident
Location: $(hostname)
Date/Time: $(date)
EVIDENCE DESCRIPTION:
Digital evidence collected from $(hostname) including system logs, configuration files, and
CHAIN OF CUSTODY:
Date/Time: $(date)
Collected By: $(whoami)
Purpose: Cybersecurity incident investigation
Method: Standard digital forensic collection procedures
Location: $(hostname)
Witness: [TO_BE_FILLED]
Signature: [TO BE FILLED]
TRANSFER LOG:
[Transfers to be documented below]
```

Evidence Transfer Procedures

VM-to-VM-Audit Transfer Protocol

Secure Transfer Preparation

```
# Prepare evidence package for transfer
EVIDENCE_PACKAGE="evidence_$(hostname)_$(date +%Y%m%d_%H%M%S).tar.gz"
# Create compressed evidence package
cd /tmp/
tar -czf "$EVIDENCE_PACKAGE" evidence_collection_*
# Generate final package hash
sha256sum "$EVIDENCE_PACKAGE" > "${EVIDENCE_PACKAGE}.hash"
# Document transfer preparation
cat > "${EVIDENCE_PACKAGE}.transfer_prep.txt" <<EOF</pre>
EVIDENCE TRANSFER PREPARATION
_____
Package: $EVIDENCE_PACKAGE
Created: $(date)
Source System: $(hostname)
Prepared By: $(whoami)
Destination: vm-audit
Transfer Method: Secure Copy (scp)
PACKAGE CONTENTS:
$(tar -tzf "$EVIDENCE_PACKAGE" | head -20)
[... and $(tar -tzf "$EVIDENCE_PACKAGE" | wc -1) total files]
INTEGRITY VERIFICATION:
Package Hash: $(cat "${EVIDENCE_PACKAGE}.hash")
EOF
Secure Transfer Execution
# Execute secure transfer to vm-audit
SOURCE_SYSTEM=$(hostname)
TRANSFER ID="transfer $(date +\%Y\m\%d \%H\%M\%S)"
# Transfer evidence package
scp "$EVIDENCE_PACKAGE" "audituser@vm-audit:/incident/archive/$SOURCE_SYSTEM/"
```

```
scp "${EVIDENCE_PACKAGE}.hash" "audituser@vm-audit:/incident/archive/$SOURCE_SYSTEM/"
scp "${EVIDENCE_PACKAGE}.transfer_prep.txt" "audituser@vm-audit:/incident/archive/$SOURCE_S'
# Verify successful transfer
ssh audituser@vm-audit "sha256sum /incident/archive/$SOURCE_SYSTEM/$EVIDENCE_PACKAGE" > /tmj
# Compare hashes to verify integrity
LOCAL_HASH=$(cat "${EVIDENCE_PACKAGE}.hash" | cut -d' ' -f1)
REMOTE_HASH=$(cat /tmp/remote_hash_verification.txt | cut -d' ' -f1)
if [ "$LOCAL_HASH" = "$REMOTE_HASH" ]; then
    echo "$(date): TRANSFER SUCCESSFUL - Hash verification passed" >> /tmp/transfer_log.txt
    TRANSFER_STATUS="SUCCESS"
else
    echo "$(date): TRANSFER FAILED - Hash mismatch detected" >> /tmp/transfer_log.txt
    TRANSFER STATUS="FAILED"
fi
# Update chain-of-custody record
cat >> "${EVIDENCE_PACKAGE}.transfer_log.txt" <<EOF</pre>
TRANSFER RECORD:
Transfer ID: $TRANSFER_ID
Date/Time: $(date)
From: $(whoami)@$(hostname)
To: audituser@vm-audit
Method: Secure Copy (scp)
Status: $TRANSFER_STATUS
Local Hash: $LOCAL_HASH
Remote Hash: $REMOTE_HASH
Verification: $([ "$LOCAL_HASH" = "$REMOTE_HASH" ] && echo "PASSED" || echo "FAILED")
EOF
VM-Audit Reception Procedures
Evidence Reception and Verification
```

```
# On vm-audit system - receive and verify evidence
EVIDENCE_DIR="/incident/archive"
RECEIVED_PACKAGE="$1" # Package filename passed as parameter
SOURCE_SYSTEM="$2"
                     # Source system name
# Create reception record
cat > "/incident/hash_records/reception_$(date +%Y%m%d_%H%M%S).txt" <<EOF</pre>
EVIDENCE RECEPTION RECORD
______
```

```
Reception Date/Time: $(date)
Received By: $(whoami)
Source System: $SOURCE_SYSTEM
Package: $RECEIVED_PACKAGE
INTEGRITY VERIFICATION:
EOF
# Verify package integrity
cd "$EVIDENCE_DIR/$SOURCE_SYSTEM"
LOCAL_HASH=$(sha256sum "$RECEIVED_PACKAGE" | cut -d' ' -f1)
EXPECTED_HASH=$(cat "${RECEIVED_PACKAGE}.hash" | cut -d' ' -f1)
echo "Calculated Hash: $LOCAL_HASH" >> "/incident/hash_records/reception_$(date +%Y%m%d_%H%l
if [ "$LOCAL_HASH" = "$EXPECTED_HASH" ]; then
   echo "Verification: PASSED" >> "/incident/hash_records/reception_$(date +%Y%m%d_%H%M%S)
   echo "Status: EVIDENCE RECEIVED AND VERIFIED" >> "/incident/hash_records/reception_$(data)
   # Extract evidence for analysis
   tar -xzf "$RECEIVED_PACKAGE"
    # Generate hashes for all extracted files
   find . -name "evidence_collection_*" -type f | while read file; do
       sha256sum "$file" >> "/incident/hash_records/extracted_file_hashes_$(date +%Y%m%d_%)
   done
else
   echo "Verification: FAILED" >> "/incident/hash_records/reception_$(date +%Y%m%d_%H%M%S)
   echo "Status: EVIDENCE INTEGRITY COMPROMISED" >> "/incident/hash_records/reception_$(data)
   # Alert incident coordinator
   echo "CRITICAL: Evidence integrity failure for package $RECEIVED_PACKAGE from $SOURCE_S
fi
```

Cross-System Evidence Correlation

Evidence Correlation Framework

Timeline Correlation Procedures

```
# Create cross-system timeline correlation
cat > "/incident/analysis/timeline_correlation_$(date +%Y%m%d_%H%M%S).txt" <<EOF</pre>
```

```
CROSS-SYSTEM EVIDENCE CORRELATION ANALYSIS
_____
Analysis Date: $(date)
Analyst: $(whoami)
Incident ID: [INCIDENT_ID]
EVIDENCE SOURCES:
$(find /incident/archive -name "EVIDENCE_MANIFEST.txt" -exec echo "Source: {}" \; -exec head
TIMELINE ANALYSIS:
EOF
# Extract timestamps from all evidence sources
find /incident/archive -name "*.log" -exec grep -H "$(date +%Y-%m-%d)" {} \; | sort > "/tmp,
# Create structured timeline
awk -F: '{print $3":"$4":"$5, $1}' /tmp/timeline_raw.txt | sort >> "/incident/analysis/time
Evidence Cross-Reference Matrix
\# Create evidence cross-reference analysis
cat > "/incident/analysis/cross_reference_$(date +%Y%m%d_%H%M%S).txt" <<EOF</pre>
EVIDENCE CROSS-REFERENCE ANALYSIS
_____
AUTHENTICATION FAILURES:
$(find /incident/archive -name "*auth*" -exec grep -H "authentication failure" {} \;)
SYSTEM ANOMALIES:
$(find /incident/archive -name "*syslog*" -exec grep -H -i "error\|warning\|failed" {} \; |
NETWORK CORRELATIONS:
$(find /incident/archive -name "*log*" -exec grep -H -E "[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+\.[0-9]
TEMPORAL CORRELATIONS:
[Analysis of events occurring at similar times across systems]
EOF
Evidence Quality Assessment
Evidence Completeness Check
# Assess evidence completeness across all systems
cat > "/incident/analysis/evidence_completeness_$(date +%Y%m%d_%H%M%S).txt" <<EOF</pre>
EVIDENCE COMPLETENESS ASSESSMENT
```

```
EXPECTED EVIDENCE SOURCES:
- vm-coretech: AIS logs, GPS data, system logs
- vm-gateway: Vendor logs, authentication logs, access logs
- vm-opsnode: CCTV logs, stream data, archive files
- vm-audit: Reception records, hash verifications
RECEIVED EVIDENCE:
$(find /incident/archive -type f -name "*.log" | wc -1) log files received
$(find /incident/archive -type f -name "*.hash" | wc -1) hash files received
$(find /incident/archive -type f -name "*manifest*" | wc -1) manifest files received
EVIDENCE GAPS IDENTIFIED:
EOF
# Check for missing expected evidence
EXPECTED_SYSTEMS=("vm-coretech" "vm-gateway" "vm-opsnode")
for system in "${EXPECTED_SYSTEMS[@]}"; do
    if [ ! -d "/incident/archive/$system" ]; then
        echo "MISSING: No evidence received from $system" >> "/incident/analysis/evidence_co
    else
       echo "RECEIVED: Evidence package from $system" >> "/incident/analysis/evidence_comp
    fi
done
Chain-of-Custody Documentation
Formal Chain-of-Custody Record
Chain-of-Custody Form Template
CHAIN OF CUSTODY RECORD
```

CASE:	[INCIDENT_ID]	I	PAGE:		of			
EVIDEN	CE DESCRIPTION	J:						
Item #	:							
Descri	ption:						 	
	Location:							
	tion Date/Time							
COLLEC	TED BY:							
Name:				Bad	lge/	'ID:	 	
Agency	r:		F	hone	: _		 	
Signat	ure:			Dat	e/I	ime:	 	

```
EVIDENCE SEALED/INITIALED: _____ WITNESS: _____
RECEIVED BY:
Name: _____ Badge/ID: _____
Agency: _____ Phone: ____
Purpose: _____
Signature: _____ Date/Time: _____
RELEASED BY:
Name: _____ Badge/ID: _____
Agency: _____ Phone: _____
Reason:
Signature: _____ Date/Time: _____
[Additional transfer entries...]
Digital Chain-of-Custody Automation
# Automate chain-of-custody record creation
create_custody_record() {
   local evidence file="$1"
   local custodian="$2"
   local purpose="$3"
   cat > "/incident/custody/custody_$(basename $evidence_file)_$(date +%Y%m%d_%H%M%S).txt"
DIGITAL CHAIN OF CUSTODY RECORD
_____
EVIDENCE DETAILS:
File: $(basename $evidence_file)
Full Path: $evidence_file
Hash: $(sha256sum $evidence_file | cut -d' ' -f1)
Size: $(stat -c%s $evidence_file) bytes
Created: $(stat -c%y $evidence_file)
CUSTODY TRANSFER:
Date/Time: $(date)
From: $(whoami)@$(hostname)
To: $custodian
Purpose: $purpose
Method: Digital transfer with hash verification
INTEGRITY VERIFICATION:
Original Hash: [TO_BE_VERIFIED]
Transfer Hash: $(sha256sum $evidence_file | cut -d' ' -f1)
Verification: [TO_BE_COMPLETED]
```

```
CUSTODIAN CERTIFICATION:
I hereby acknowledge receipt of the above-described evidence and certify that it was receive
Custodian: $custodian
Date/Time: $(date)
Signature: [DIGITAL_SIGNATURE_REQUIRED]
EOF
Audit Trail Maintenance
Evidence Access Logging
# Log all access to evidence files
log_evidence_access() {
    local evidence_file="$1"
    local access_type="$2" # READ, WRITE, TRANSFER, ANALYSIS
    local purpose="$3"
   echo "$(date)|$(whoami)|$(hostname)|$access_type|$(basename $evidence_file)|$purpose" >
}
# Example usage:
# log_evidence_access "/incident/archive/vm-coretech/auth.log" "READ" "Timeline analysis"
# log_evidence_access "/incident/archive/vm-gateway/vendor.log" "ANALYSIS" "Malware investign
Periodic Integrity Verification
# Verify evidence integrity periodically
verify_evidence_integrity() {
    echo "EVIDENCE INTEGRITY CHECK - $(date)" >> "/incident/audit/integrity_check_log.txt"
    find /incident/archive -name "*.hash" | while read hashfile; do
        evidence_file="${hashfile%.hash}"
        if [ -f "$evidence_file" ]; then
            expected_hash=$(cat "$hashfile" | cut -d' ' -f1)
            current_hash=$(sha256sum "$evidence_file" | cut -d' ' -f1)
            if [ "$expected_hash" = "$current_hash" ]; then
                echo "PASS: $(basename $evidence_file)" >> "/incident/audit/integrity_check
            else
                echo "FAIL: $(basename $evidence_file) - INTEGRITY COMPROMISED" >> "/inciden
                # Alert incident coordinator immediately
                echo "CRITICAL: Evidence integrity failure detected for $evidence_file" | ma
```

fi

fi

```
done
}

# Schedule periodic integrity checks
echo "0 */6 * * * /usr/local/bin/verify_evidence_integrity" >> /etc/cron.d/evidence-integrity
```

Legal Compliance Requirements

Regulatory Evidence Standards

Evidence Retention Requirements

- Cybersecurity Incidents: Minimum 7 years retention
- Financial Impact: Extended retention per regulatory requirements
- Legal Proceedings: Litigation hold until case resolution
- Insurance Claims: Retention until claim resolution + 2 years

Evidence Disclosure Obligations

```
# Prepare evidence for legal disclosure
prepare_legal_disclosure() {
   local case_number="$1"
   local requesting_party="$2"
   mkdir -p "/incident/legal_disclosure/$case_number"
    # Create disclosure package with proper legal formatting
    cat > "/incident/legal_disclosure/$case_number/DISCLOSURE_PACKAGE.txt" <<EOF</pre>
LEGAL EVIDENCE DISCLOSURE PACKAGE
_____
Case Number: $case number
Requesting Party: $requesting_party
Disclosure Date: $(date)
Prepared By: $(whoami)
EVIDENCE INCLUDED:
[List of evidence files being disclosed]
CHAIN OF CUSTODY:
[Complete chain-of-custody documentation]
INTEGRITY VERIFICATION:
[Hash verification records]
LEGAL CERTIFICATION:
```

```
I hereby certify that the evidence included in this disclosure package represents a true and Prepared By: $(whoami)
Title: [TITLE]
Date: $(date)
Signature: [REQUIRED]
```

Privacy and Privilege Protection

EOF
}

Evidence Sanitization Procedures

```
# Remove privileged or private information before disclosure
sanitize_evidence() {
   local input_file="$1"
   local output_file="$2"
   # Remove attorney-client privileged communications
   grep -v -i "attorney\|lawyer\|counsel\|privileged" "$input_file" > "$output_file.temp1"
   # Remove personal identifying information (basic pattern matching)
   # Document sanitization
   echo "$(date): Sanitized $input_file -> $output_file" >> "/incident/audit/sanitization_]
   # Clean up temporary files
   rm "$output_file.temp1" "$output_file.temp2"
   # Generate hash of sanitized file
   sha256sum "$output_file" > "$output_file.hash"
}
```

Quality Assurance and Validation

Evidence Collection Validation Checklist

Pre-Transfer Validation

Hash Generation: SHA256 hash generated for all evidence files
Timestamp Verification: File timestamps preserved and documented
Completeness Check: All relevant evidence identified and collected
Chain-of-Custody: Initial custody record completed
Legal Review: Evidence collection methods legally sound

Transfer Validation

□ Secure Transfer: Evidence transferred using secure, authenticated
method
☐ Integrity Verification: Hash verification completed post-transfer
☐ Receipt Confirmation: Transfer receipt confirmed by receiving party
□ Documentation Update: Chain-of-custody updated with transfer details
☐ Access Control: Evidence secured with appropriate access controls
Post-Transfer Validation
☐ Storage Security: Evidence stored in secure, controlled environment
☐ Access Logging: All evidence access properly logged
☐ Periodic Verification: Regular integrity checks scheduled
☐ Retention Compliance: Evidence retention schedule established
□ Disposal Planning: Secure disposal procedures planned for end-of-

Common Evidence Handling Errors to Avoid

CRITICAL ERRORS:

retention

- No Hash Generation: Failing to generate cryptographic hashes
- Chain-of-Custody Gaps: Missing or incomplete custody documentation
- Integrity Compromise: Evidence modified after collection
- Insecure Transfer: Evidence transferred without encryption or verification
- Access Control Failure: Unauthorized access to evidence

BEST PRACTICES:

- Immediate Hashing: Generate hashes before any analysis or transfer
- Continuous Documentation: Document every action taken with evidence
- Secure Storage: Use encrypted, access-controlled storage systems
- Regular Verification: Perform periodic integrity checks
- Legal Consultation: Involve legal team in evidence handling decisions

Success Criteria for Evidence Management

Technical Success Criteria

- All evidence collected with proper cryptographic hash verification
- Chain-of-custody documentation complete and unbroken
- Evidence transferred securely with verified integrity
- No unauthorized modification or access to evidence
- All evidence properly correlated across systems

Legal Success Criteria

- Evidence collection methods legally defensible
- Chain-of-custody meets legal admissibility standards
- Privacy and privilege protection maintained throughout
- Regulatory compliance requirements satisfied
- Evidence ready for legal proceedings if required

Operational Success Criteria

- Evidence collection completed without disrupting ongoing operations
- Technical investigation supported by quality evidence
- Cross-team coordination effective throughout evidence handling
- Documentation sufficient for comprehensive incident analysis

• Lessons learned captured for future evidence handling improvement

Owner: Technical Team Lead / Legal Counsel

Reference: TECH-EVIDENCE-01

Version: 1.0

Approved by: Cyber-Ops Coordination Cell