Using OS Resources to Diagnose Troubles

Daniel Sellers
Bell Techlogix
Apple Certified Trainer
dsellers@belltechlogix.com

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KISS Strategy

Keep
It
Simple
Stupid

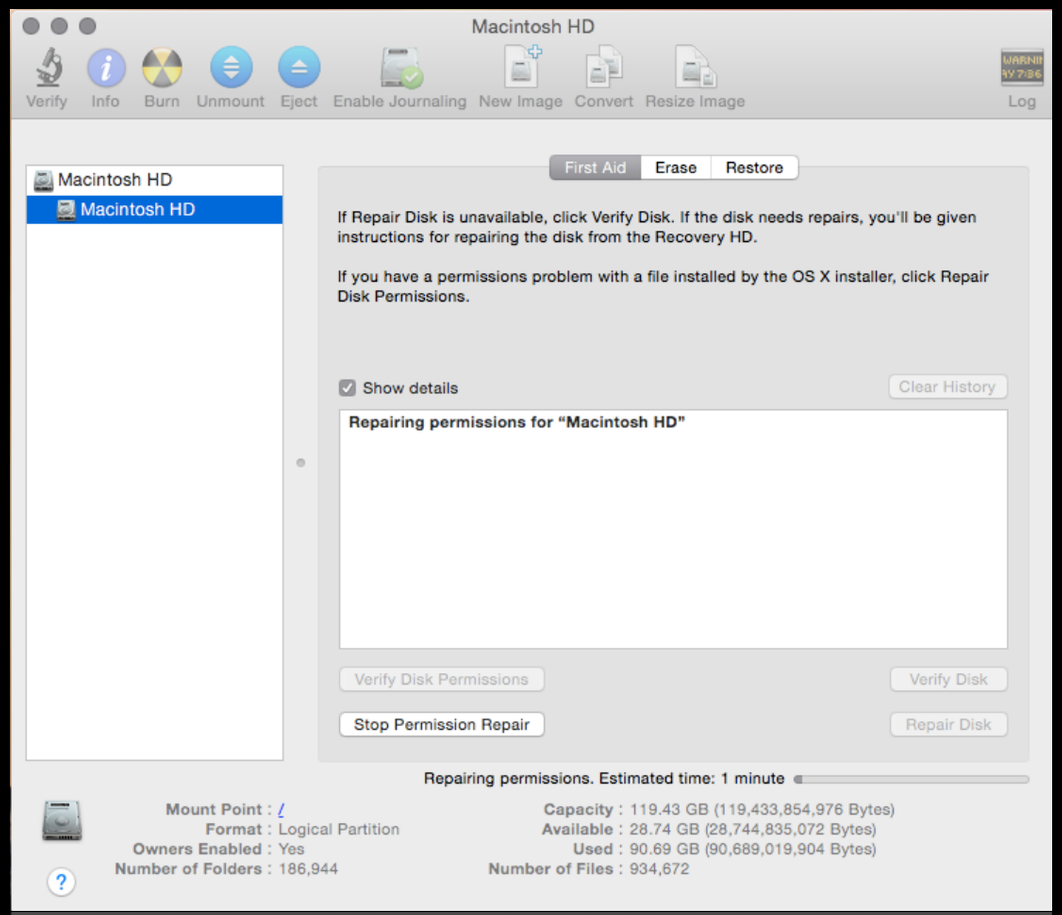
Honor the Troubleshooting Method

KISS Strategy

Try another application
Create another user account
Make sure the cable is plugged in
User error?

Honor the Troubleshooting Method

Disk Utility



Go-To application most often used

Apple installer packages only

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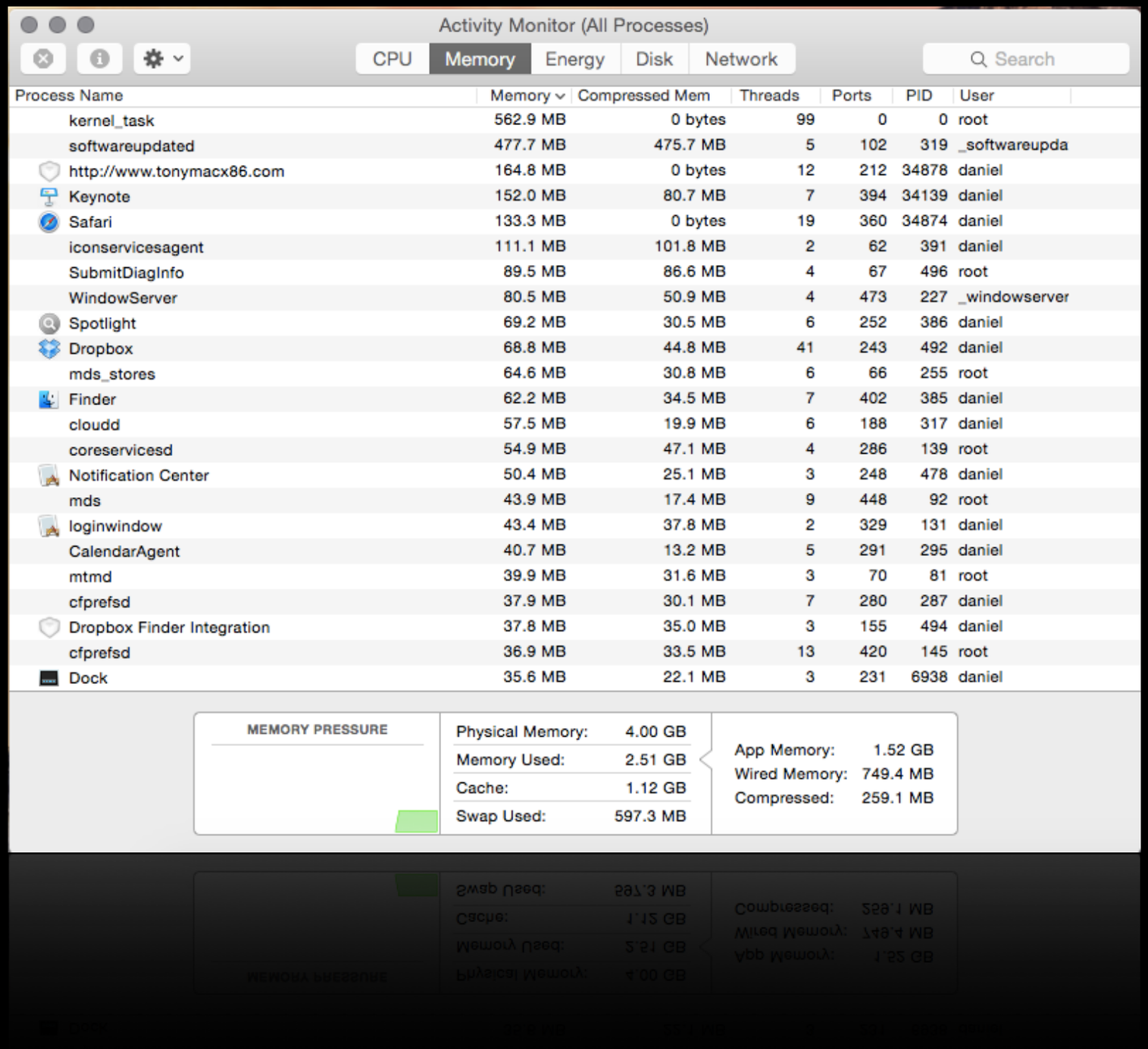
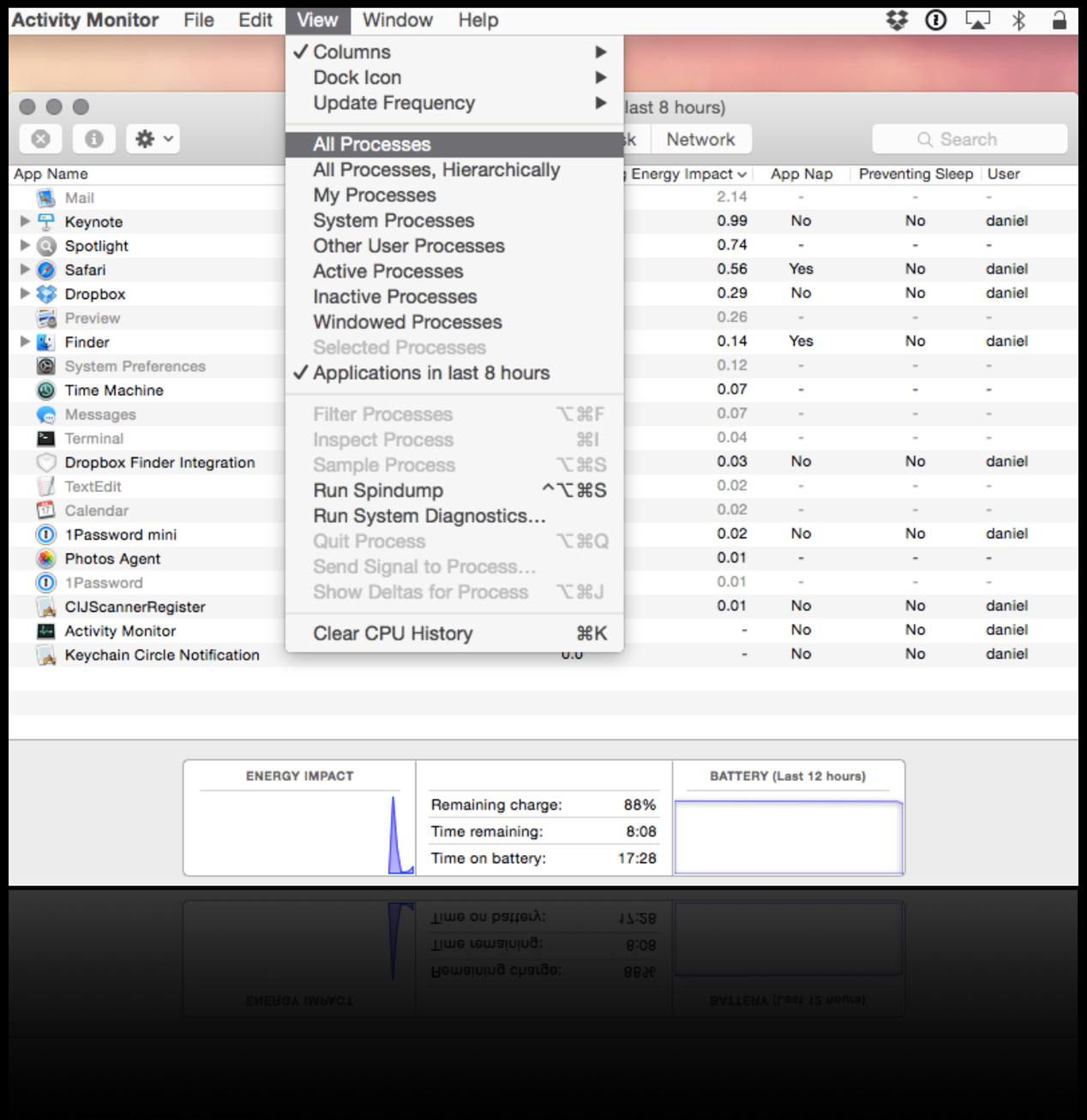
Activity Monitor



Activity Monitor



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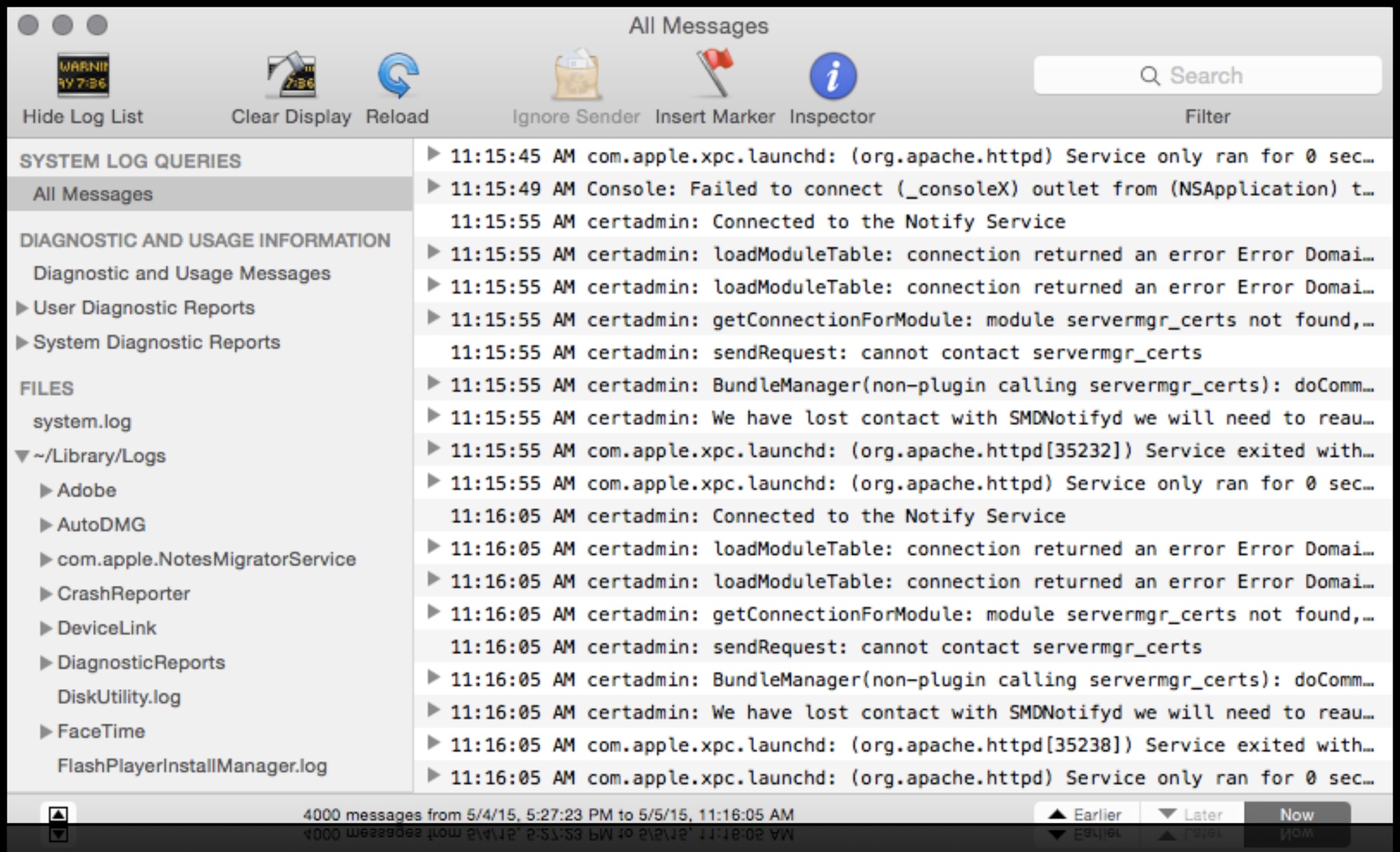
Console



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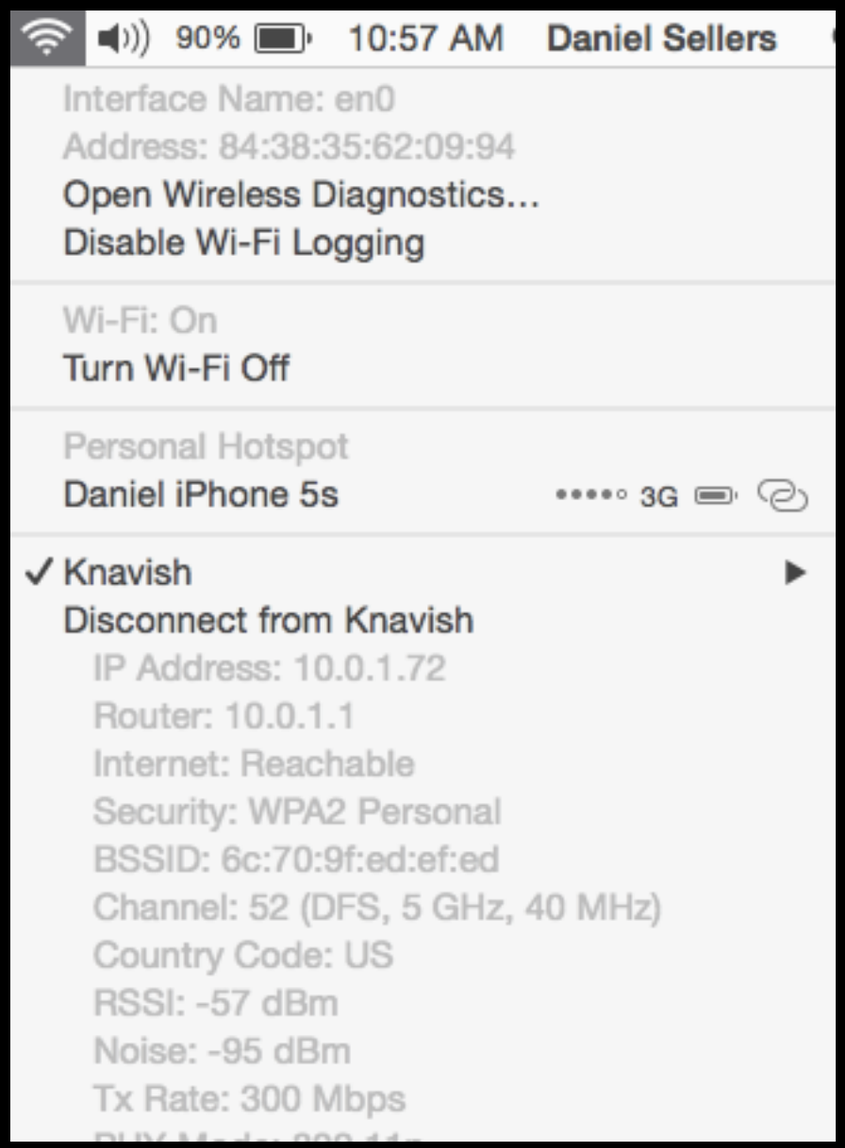
Wireless Diagnostics



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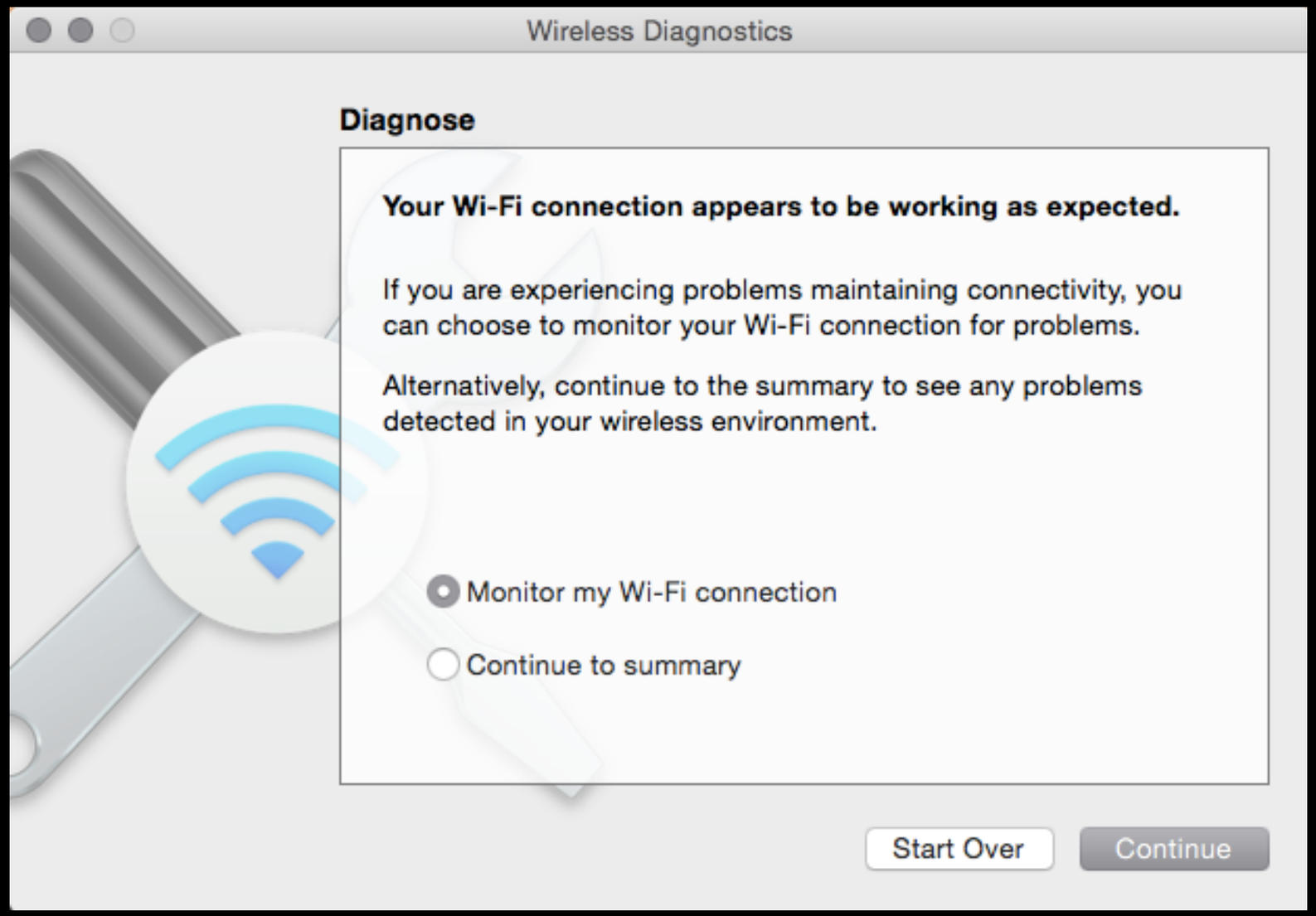
Wireless Diagnostics



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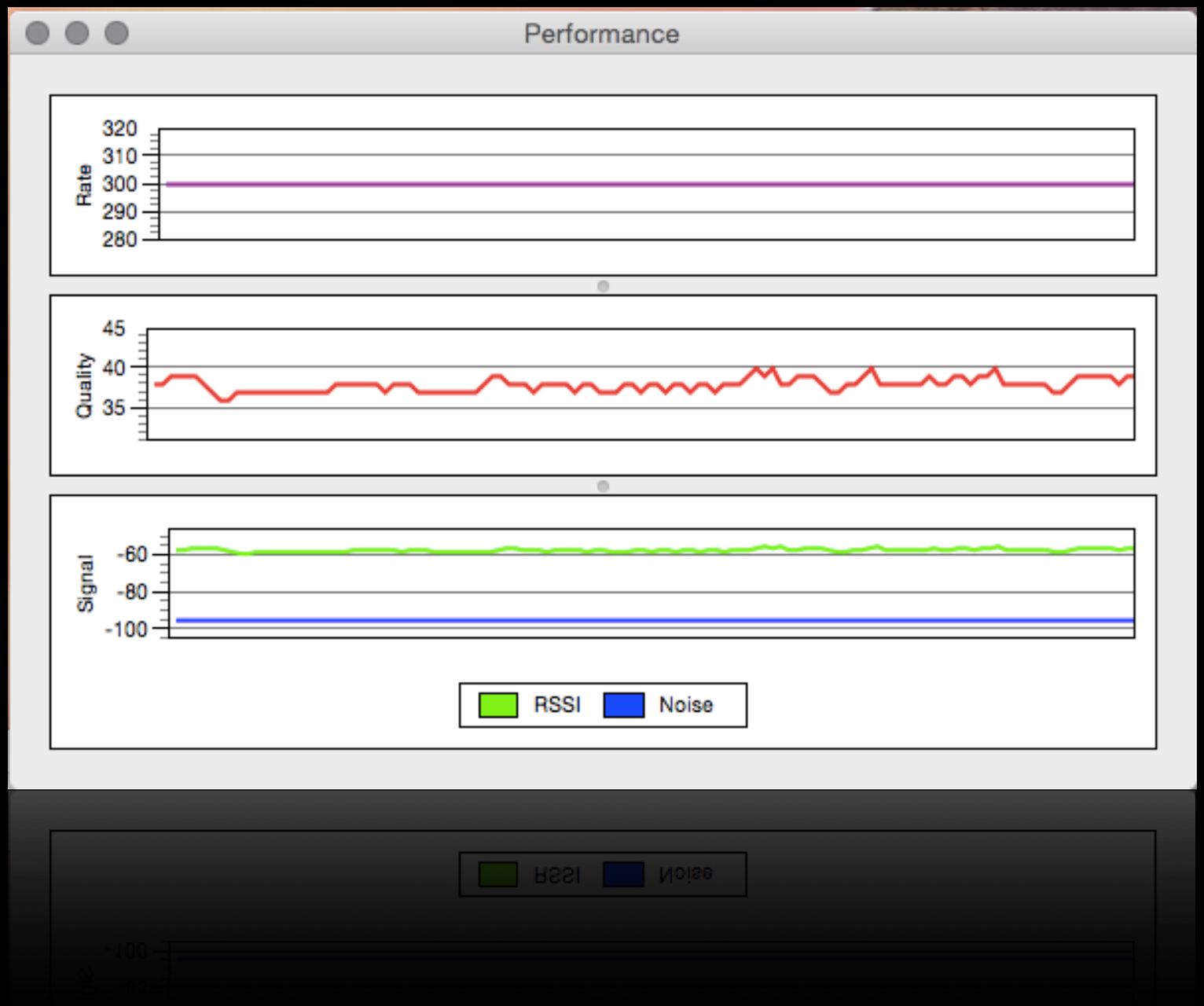
Wireless Diagnostics



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Core Storage





FileVault & Fusion Drive

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Core Storage

You can convert Yosemite's Core Storage partition back to HFS+

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Core Storage

diskutil cs list

```
CoreStorage logical volume groups (1 found)
|
+-- Logical Volume Group 56EDEE99-57E6-495B-A809-7042CBB9F725
    =========================================================
    Name:         Yosemite
    Status:       Online
    Size:         39349997568 B (39.3 GB)
    Free Space:   259604480 B (259.6 MB)
    |
    +-< Physical Volume 3D2DC4ED-4F33-4808-92F7-BCD6BFC36CA2
    |   ----------------------------------------------------
    |   Index:    0
    |   Disk:     disk0s4
    |   Status:   Online
    |   Size:     39349997568 B (39.3 GB)
    |
    +-> Logical Volume Family 993EBF39-FE2E-4F2C-BD44-76E460B9EC7A
        ----------------------------------------------------------
        Encryption Status:       Unlocked
        Encryption Type:         None
        Conversion Status:       NoConversion
        Conversion Direction:    -none-
        Has Encrypted Extents:   No
        Fully Secure:            No
        Passphrase Required:     No
        |
        +-> Logical Volume 47F9D6B1-F8F2-4E64-8AD4-9F2E2BD78E29
            ---------------------------------------------------
            Disk:                  disk2
            Status:                Online
            Size (Total):          38754844672 B (38.8 GB)
            Conversion Progress:   -none-
            Revertible:            Yes (no decryption required)
            LV Name:               Yosemite
            Volume Name:           Yosemite
            Content Hint:          Apple_HFS
```

diskutil coreStorage revert [THAT LONG STRING OF STUFF]

Startup Modifiers

NetBoot - “N”

Target Disk Mode - “T”

Recovery Mode - Command (⌘) and “R”

Startup disk - “Option”

PRAM - Command, Option, “P” and “R”

Verbose Mode - Command and “V”

Single User Mode - Command and “S”

Safe Mode - “Shift”

OS X Recovery

- Useful to restore a non-functional Mac to working order
- Command-R
- createinstallmedia
- Access to a suite of network utilities
- Required for FaultVault

System Initialization



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System Initialization Steps

1. Firmware
2. Booter
3. Kernel
4. launchd

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Boot Failures







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```
Darwin Kernel Version 14.1.0: Mon Dec 22 23:10:38 PST 2014; root:xnu-2782.10.72~2/RELEASE_X86_64
vm_page_bootstrap: 445194 free pages and 79094 wired pages
text submap [0xffffff7f80a00000 - 0xffffff8000000000], kernel text [0xffffff8000200000 - 0xffffff8000a00000]
zone leak detection enabled
"vm_compressor_mode" is 4
multiq scheduler config: deep-drain 0, urgent first 1, depth limit 4, band limit 127, sanity check 0
standard timeslicing quantum is 10000 us
standard background quantum is 2500 us
mig_table_max_displ = 13
TSC Deadline Timer supported and enabled
AppleACPICPU: ProcessorId=0 LocalApicId=0 Enabled
AppleACPICPU: ProcessorId=1 LocalApicId=2 Enabled
calling mpo_policy_init for TMSafetyNet
Security policy loaded: Safety net for Time Machine (TMSafetyNet)
calling mpo_policy_init for AMFI
Security policy loaded: Apple Mobile File Integrity (AMFI)
calling mpo_policy_init for Sandbox
Security policy loaded: Seatbelt sandbox policy (Sandbox)
calling mpo_policy_init for Quarantine
Security policy loaded: Quarantine policy (Quarantine)
Copyright (c) 1982, 1986, 1989, 1991, 1993
        The Regents of the University of California. All rights reserved.

MAC Framework successfully initialized
using 10485 buffer headers and 7290 cluster IO buffer headers
AppleKeyStore starting (BUILT: Dec 22 2014 23:20:35)
IOAPIC: Version 0x11 Vectors 64:87
ACPI: sleep states S4 S5
pci (build 23:16:47 Dec 22 2014), flags 0xe3000, pfm64 (42 cpu) 0x3ff80000000, 0x80000000
  PCI configuration begin ]
console relocated to 0xf0000000
  PCI configuration end, bridges 35, devices 12 ]
Rooting via boot-uuid from /chosen: 0A81F3B1-51D9-3335-B3E3-169C3640360D
Waiting on <dict ID="0"><key>IOProviderClass</key><string ID="1">IOResources</string><key>IOResourceMatch</key><string ID="2">bo
ot-uuid-media</string></dict>
com.apple.AppleFSCompressionTypeZlib kmod start
```

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Questions?



Daniel Sellers
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