Debugging.TV

Frame 0x1C

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Topics

- The life without LSASS
- Fibre bundle memory dumps
- Zero threads on Windows 8.1
- Windows 8.1 File Explorer threads

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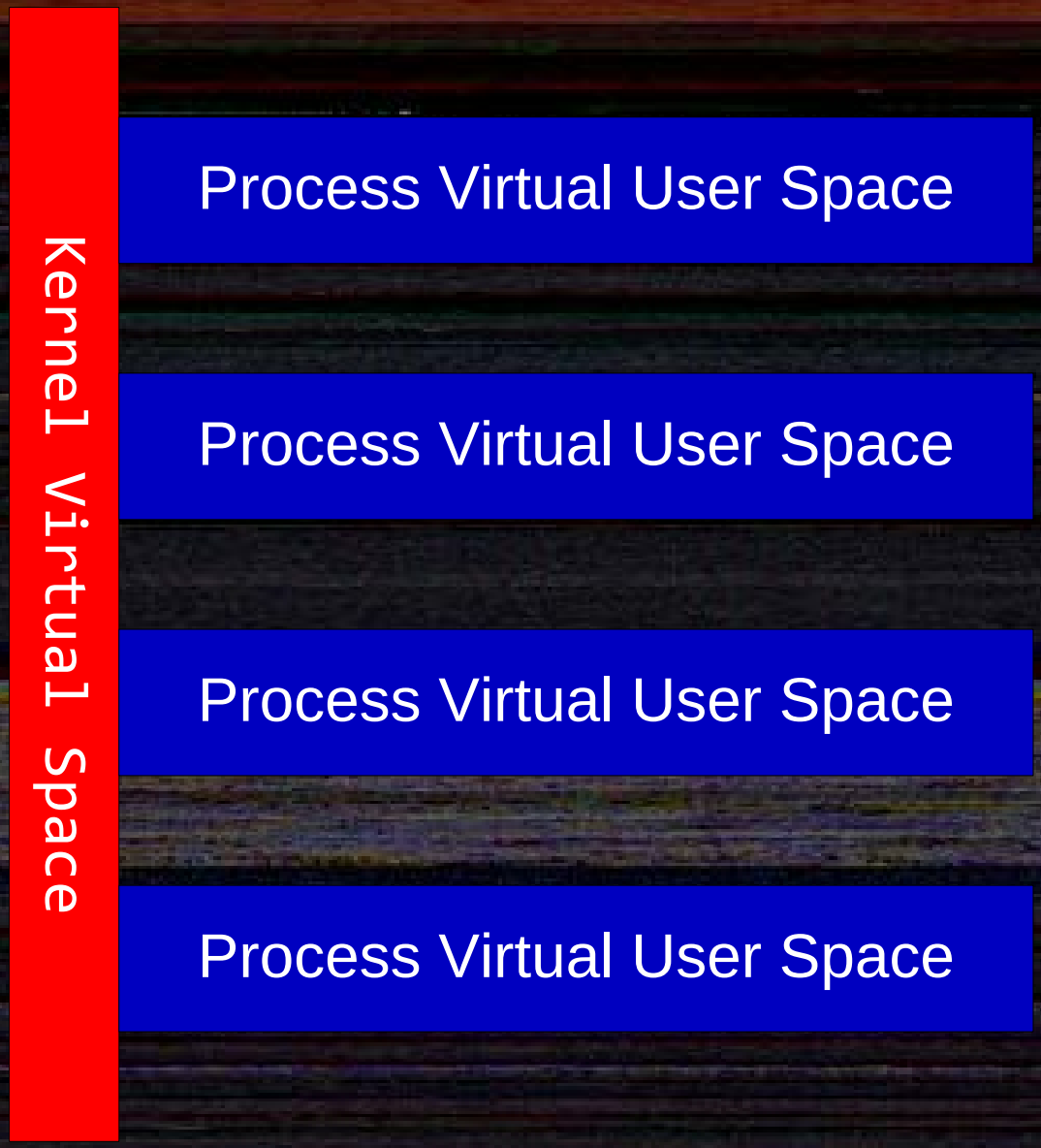
Fibre Bundle



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Zero Threads

```
THREAD ffffe000006f4880  Cid 0214.063c  Teb: 00007ff70c1a4000 Win32Thread: 0000000000000000 WAIT: (Suspended) KernelMode Non-Alertable
SuspendCount 1
          ffffe000006f4b60  NotificationEvent
        Not impersonating
        DeviceMap                 ffffc00001c145c0
        Owning Process            ffffe000021fd900       Image:         explorer.exe
        Attached Process          N/A            Image:         N/A
        Wait Start TickCount      255497         Ticks: 32955 (0:00:08:34.921)
        Context Switch Count      2              IdealProcessor: 0
        UserTime                  00:00:00.000
        KernelTime                00:00:00.000
        Win32 Start Address 0x00007ffe14aed6bc
        Stack Init ffffd00022119dd0 Current ffffd00022119500
        Base ffffd0002211a000 Limit ffffd00022114000 Call 0
        Priority 10 BasePriority 8 UnusualBoost 0 ForegroundBoost 0 IoPriority 2 PagePriority 5
        Child-SP          RetAddr           Call Site
        ffffd000`22119540 fffff802`c572c90e nt!KiSwapContext+0x76
        ffffd000`22119680 fffff802`c572c3a7 nt!KiSwapThread+0x14e
        ffffd000`22119720 fffff802`c56c39a8 nt!KiCommitThreadWait+0x127
        ffffd000`22119780 fffff802`c577ce64 nt!KeWaitForSingleObject+0x248
        ffffd000`22119820 fffff802`c572e289 nt!KiSchedulerApc+0x94
        ffffd000`22119880 fffff802`c57daa23 nt!KiDeliverApc+0x209
        ffffd000`22119900 fffff802`c5ac325c nt!KiApcInterrupt+0xc3 (TrapFrame @ ffffd000`22119900)
        ffffd000`22119a90 fffff802`c57dc3f5 nt!PspUserThreadStartup+0x18
        ffffd000`22119b00 fffff802`c57dc377 nt!KiStartUserThread+0x16
        ffffd000`22119c40 00007ffe`1e2a43b4 nt!KiStartUserThreadReturn (TrapFrame @ ffffd000`22119c40)
        00000000`0d49fcb8 00000000`00000000 0x00007ffe`1e2a43b4


 74  Id: 214.63c Suspend: 1 Teb: 00007ff7`0c1a4000 Unfrozen
Child-SP          RetAddr           Call Site
00000000`0d49fcb8 00000000`00000000 ntdll!RtlUserThreadStart
```

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When CPU Spike is Normal

```
T0:000> !runaway
 User Mode Time
  Thread       Time
  44:1ec       0 days 0:00:20.312
  32:790       0 days 0:00:02.640
[…]

0:000> ~44kc
Call Site
gdi32!NtGdiStretchBlt
gdi32!StretchBlt
GdiPlus!EpScanGdiDci::ProcessBatch_Gdi_Batch
GdiPlus!EpScanGdiDci::EmptyBatch
GdiPlus!EpScanBufferNative<unsigned long>::~EpScanBufferNative<unsigned long>
GdiPlus!DpDriver::FillPath
GdiPlus!DriverGdi::FillPath
GdiPlus!GpGraphics::DrvFillPath
GdiPlus!GpGraphics::RenderFillPath
GdiPlus!GpGraphics::FillPolygon
GdiPlus!GdipFillPolygon
GdiPlus!GdipFillPolygonI
chartv!CvPaintSurface::Polyline
chartv!CvLine::Render
chartv!CvLineChart::Render
chartv!CvWindow::WindowMessages
user32!UserCallWinProcCheckWow
user32!CallWindowProcW
duser!WndBridge::RawWndProc
user32!UserCallWinProcCheckWow
user32!SendMessageWorker
user32!SendMessageW
shell32!COperationStatusTileRateChart::_DrawChart
shell32!COperationStatusTileRateChart::_PaintOverlay
shell32!COperationStatusTileRateChart::_OverlayBufferedPaint
shell32!COperationStatusTileRateChart::_OverlayWindowProcedure
shell32!COperationStatusTileRateChart::s_OverlayWindowProcedure
[…]
```

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WRL

```
0:000> ~1kc        ; Windows 8.0
Call Site
user32!NtUserWaitAvailableMessageEx
explorer!CTray::_MessageLoop
explorer!CTray::MainThreadProc
SHCore!COplockFileHandle::v_GetHandlerCLSID
kernel32!BaseThreadInitThunk
ntdll!RtlUserThreadStart

0:000> ~2kc        ; Windows 8.1 – coincidental symbolic information
Call Site
user32!NtUserWaitAvailableMessageEx
explorer!CTray::_MessageLoop
explorer!CTray::MainThreadProc
SHCore!Microsoft::WRL::Details::ImplementsHelper<Microsoft::WRL::RuntimeClassFlags
<3>,Microsoft::WRL::Details::InterfaceList<Microsoft::WRL::CloakedIid<IInputStream
Priv>,Microsoft::WRL::Details::InterfaceList<Microsoft::WRL::CloakedIid<CFTMCrossP
rocServer>,Microsoft::WRL::Details::Nil> >,1,0>::CanCastTo
kernel32!BaseThreadInitThunk
ntdll!RtlUserThreadStart
```

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