

Obfuscation: Constant (C-String)

R5AC uses a simple XOR algorithm where the decryption key length and encrypted content length are identical.

Referenced & encoded C-Strings Analysis

DLL Related

```
“ 0x20ea35 KERNEL32.dll
  0x3a3e51 ntdll.dll
  0x54ee61 ADVAPI32.dll
  0x542551 steamnetworksockets.dll
  0x542691 steam_api64.dll
  0x2f1cc2 EOSSDK-Win64-Shipping.dll
  0x54ee31 EasyAntiCheat_EOS
  0x3a3e81 wine_get_version
```

API Related

```
“ 0x20ea60 K32GetMappedFileNameA
  0x20ee00 VirtualQuery
  0x20f160 GetLastError
  0x7df831 VirtualProtect
  0x54ee91 OpenSCManagerA
  0x54eec1 OpenServiceA
  0x54eef1 QueryServiceStatusEx
```

0x54ef21 CloseServiceHandle
0x543471 WideCharToMultiByte
0x541fc0 RtlCaptureStackBackTrace

Control Flow Analysis / Game Functions

// 0x20e9f0 CS_CEngineClient::Engine_SetViewAngles
0x26c540 CS_CNetChan::SetTimeout
0x26dfe0 CS_CNetChan::SendReliableMessages
0x270511 CS_CNetChan::SendDatagram
0x2744c1 CS_CNetChan::SendNetMessage
0x275210 CS_CNetChan::SendData
0x3ae540 CS_Playlist_GetPlaylistVar
0x7cf601 CS_C_BaseEntity::CalcAbsoluteVelocity
0x878620 CS_CViewRender::GetMostRecentClipTransform
0x951be1 CS_CInput::Input_CreateMove
0x952811 VTP_CInput::Input_CreateMove
0x59ebd0 CS_CCommandBuffer::AddText
0x69b830 CS_UTIL_TraceRay_Client
0xa58200 CS_C_BaseEntity::GetEntityNameAsCStr
0xab800 CS_C_MoveData::MoveData_Init
0xcc4e10 CS_Pak_RequireSignedPaks
0xcc8c51 CS_Pak_ValidateSignatureForCurrentReadingFile
0xcd89a1 CS_WrappedFileSystem_Open

Virtual Method Table Analysis

// 0x22ee01 VTP_GetEngineTraceClient
0x22f271 VTP_GetEngineTraceClientDecals
0x479351 VTP_GetFileSystemInterface
0x817371 VTP_C_Player::Spawn
0x865491 VTP_GetEntityList
0x9f13b1 VTP_GetViewRenderInstance

Miscellaneous

```
0x20f0f0 BA:0x%lX AB:0x%lX RS:0x%lX AP:0x%lX PR:0x%lX TY:0x%lX
0x5427e0 Callstack Init Failed
0x543821 os_version
0x543a12 gpu_vendor
0x543c91 render_device_driver_version
0x543e81 cpu_brand
0x544042 windows_install_date
0x544205 is_wine
0x544231 0
0x544260 1
0x544780 language
0x544a40 HWID_%02X-%02X
0x544ab0 %02X
0x544db1 HWID_%02X-FAILURE
0x54a0b1 %u:%u:%X:%lX:%lX:%lX
0x54fa91 Startup
0x7dfb91 remove permissions
```

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