
Subject: : AmigaOS4

Topic: : DevilutionX - Diablo 1

Re: DevilutionX - Diablo 1

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URL:

What is the correct way for memory allocation?

I'm sorry if it was already discussed in some other thread, I just can't find proper answer..

I'm not 100% sure how it works but I will try to describe my concern

Lets say I need to open a file, so I will allocate needed memory size with malloc function and load the file into the memory. Now I need to decode the content in memory so I need to use some operations like swap some bytes etc.

Is it OK to use malloc operation for this purpose regarding memory protection or should AllocVecTags() be used instead?

Devilution goes to GR in following function, I'm trying to understand what is going on and memory protection comes to my mind as possible issue

```
void __fastcall CelDrawDatOnly(char *pDecodeTo, char *pRLEBytes, int dwRLESize, int dwRLEWdt)
{
    char *v4; // esi
    char *v5; // edi
    int v6; // edx
    unsigned int v7; // eax
    unsigned int v8; // ecx
    char v9; // cf
    unsigned int v10; // ecx
    char *v11; // [esp+4h] [ebp-8h]

    v11 = pRLEBytes;
    if ( pDecodeTo && pRLEBytes )
    {
        v4 = pRLEBytes;
        v5 = pDecodeTo;
        do
        {
            v6 = dwRLEWdt;
            do
            {
                while ( 1 )
                {
                    v7 = static_cast<unsigned char>(*v4++);
                    if ( (v7 & 0x80u) == 0 )
                        break;
                }
            }
        }
    }
}
```

```

_LOBYTE(v7) = -(char)v7;
v5 += v7;
v6 -= v7;
if ( !v6 )
    goto LABEL_14;
}
v6 -= v7;
v8 = v7 >> 1;
if ( v7 & 1 )
{
    *v5++ = *v4++; ///<<<<<<<<<<<<<<<<<<<<<<<<< Grim Reaper
    if ( !v8 )
        continue;
}
v9 = v8 & 1;
v10 = v7 >> 2;
if ( v9 )
{
    *(_WORD *)v5 = *(_WORD *)v4;
    v4 += 2;
    v5 += 2;
    if ( !v10 )
        continue;
}
memcpy(v5, v4, 4 * v10);
v4 += 4 * v10;
v5 += 4 * v10;
}
while ( v6 );
LABEL_14:
    v5 += -dwRLEWdt - 768;
}
while ( &v11[dwRLESize] != v4 );
}
}

```

Thanks