

Re: Utility for parsing raw data into C structures

Source: <http://linux.derkeiler.com/Newsgroups/comp.os.linux.development.apps/2004-09/0718.html>

From: Pat Ford (pat.ford_at_nrc.ca)

Date: 09/30/04

Date: Thu, 30 Sep 2004 07:25:02 -0400

"Nils O. Selåsdal" <NOS@Utel.no> wrote in message
news:9eP6d.12593\$g%5.162430@news2.e.nsc.no...
> *Pat Ford* wrote:
>> *"Karthik K R"* <shukart1@yahoo.com> wrote in message
>> *news:44bd5fac.0409290606.69a9d264@posting.google.com...*
>>
>>
>>
>>
>> *how about;*
>>
>> *//===== in the header file*
>> *typedef struct {*
>> *u_int16_t jmp_opcode; // this is always a 6*
>> *u_int16_t Buffer; // the is the offset for the satrt of the*
main
>> *program*
>> *u_int16_t Naddr; // number of addresses in the setup section*
>> *u_int16_t CASES; // the number of cases in the program*
>> *u_int16_t highChannelBitmap; // channel addresses in the range of*
E940
>> *to E95A*
>> *u_int16_t lowChannelBitmap; // channel addresses in the range of*
E740
>> *to E75A*
>> *u_int16_t subcases; // the number of subcases of option 0xD*
>> *u_int16_t spare; // unused*
>> *u_int16_t FUNCT[8]; // starting addresses of upto 8 functions this*
is
>> *an offset from tble*
>> *HomeType home[20]; // this array hold the value and address for*
each
>> *"safe"*
>> *// position. the number comes from refer.h AddressTableLimit*
>> *u_int16_t poo[16];*
>> *}RefHeaderType;*
> *Depending what's the structure of the data is in*

> *JRefHeaderType __attribute__((__packed__))*;
> *might be needed when mapping data directly to C structures.*

Good catch, the latter revisions of this system use the packed attribute. As a note to others, packed forces the compiler to do what you think when you use a structure, not align it on word, quadword or other boundaries. This becomes important if your structure is accessed by a program that was built with a different compiler.

In my case this structure goes on to a reflective memory network, it is built on redhat9 has an NT and a W98 client and a few other RH9 machines all reading it. Not using the packed allowed the structure to work great on all RH9 but fail on the others and caused a week of headaches.

Pat