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/*
 * OMEGA CNI843 temperature monitor device support module
 *
 * Why would it be a very bad idea to use this driver "as is"?
 */
#include <vxWorks.h>
#include <stdlib.h>
#include <stdio.h>
#include <string.h>
#include <types.h>
#include <socket.h>
#include <in.h>
#include <unistd.h>
#include <float.h>
#include <alarm.h>
#include <cvTable.h>
#include <dbDefs.h>
#include <dbAccess.h>
#include <recSup.h>
#include <devSup.h>
#include <link.h>
#include <aiRecord.h>

char monitor_IP[20]; /* Hint # 1 */

static long init_CNI843_record(struct aiRecord *pai)
{
    struct instio *pinstio;

    /* For CNI843 module, ai.inp must be a INST_IO */
    switch (pai->inp.type)
    {
        case(INST_IO):
            pinstio = (struct instio *)&(pai->inp.value);
            strcpy(monitor_IP, pinstio->string);
            /* get ip address from db file */
            break;
        default:
            recGblRecordError(S_db_badField, (void *)pai,
                "devAiCNI843 (init_record) Illegal INP field");
            return(S_db_badField);
    }

    return(0);
}

static long read_CNI843_ai(struct aiRecord *pai)
{
    float value;

    Omega_temperature_read(monitor_IP, &value);
    pai->val = value;
    pai->udf = FALSE;
    return(2); /* return raw data, don't convert */
}

/* Hint # 2 */
void Omega_temperature_read(const char * ipaddress, float *temp)
{
    int fd;
    struct sockaddr_in address;
    int address_len;
    int rtval;
    short int port;
    char sendbuf[20];
    char recvbuf[20];
    char tmp[4];
    int len,i;

    port = 1000;

    /* Hint #3 */

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fd = socket(PF_INET, SOCK_STREAM, 0);
address.sin_family = PF_INET;
address.sin_addr.s_addr = inet_addr(ipaddress);
address.sin_port = htons(port);
address_len = sizeof(address);

rtval = connect(fd, (struct sockaddr *)&address, address_len);
if(rtval == -1)
    exit(1); /* Hint #4 */

/*Send command first. */
strcpy(sendbuf, "01X01\r");
send(fd, sendbuf, strlen(sendbuf), 0);

/* Mega Hint #5 */

/*Receive data from server. */
len = recv(fd, recvbuf, 100, 0);

/*get real data from response message*/
for(i = 0; i < 4; i++)
    tmp[i] = recvbuf[6+i];
*temp = atof(tmp);

/*Close and quit */
close(fd);
}

struct {
    long        number;
    DEVSUPFUN   report;
    DEVSUPFUN   init;
    DEVSUPFUN   init_record;
    DEVSUPFUN   get_ioint_info;
    DEVSUPFUN   read_ai;
    DEVSUPFUN   special_linconv;
}devAicNi843={
    6,
    NULL,
    NULL,
    init_CNi843_record,
    NULL,
    read_CNi843_ai,
    NULL
};
```