ACAS

Applewood Computers Accounting System

ACAS System Set up Procedures

Reference Manual

v3.02

This document is the reference manual for Setting up all ACAS system components which for the ACAS software system and is the Applewood Computers Accounting System and is :

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Which Includes :
          *IRS – Incomplete Records System (primary General Ledger) used over GL)
          *Nominal or General Ledger also referred to as GL
          *Sales Ledger also known as Accounts Receivable and as SL
          *Purchase Ledger also known as Accounts Payable and PL
          *Invoicing (module/s within Sales Ledger)
          *Stock Control also known as Inventory with links to Sales & Purchase

Supplied with commercial versions only and subject to a yearly maintenance fee:
          *Payroll
          *Eshop link processing
* Not supplied with Open Source versions.

Each sub system has its own documentation as well as a complete system overview.

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Author: Vincent Coen, The author asserts his copyright over this work.
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X 3 5 7 9 X 2 4 6 8

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Introduction

This document is for the set up of the ACAS system that is other than the building of the system for which, please read the manual ACAS - Building the ACAS System which is also included in the document folder ACAS-Manuals.

Some of the content in this manual is also duplicated in Building the ACAS System and possibly others and no not normally deliberately, just my mistakes in document writing or where it is needed to remind users of processes required and the logic of doing so.

This document is in the process of being written and is subject to changes.

Overview of Set-up and Operation

System Set up

Following is a list of processes to be completed in order.

1.   Decide on the computer that will be used to host the ACAS system. It does not need to be a brand new model with the fastest CPU and lots of memory (RAM) but it is recommended that if it will play host to a number of users say within 12 months of operation to be powerful enough to cope with most of them using the system at the same time so it is suggested to use say, a four core CPU and a minimum of 4 - 8 GB of Ram. In addition a reasonable speed hard drive to store your data, system applications and the O/S (Operating System), such as a SATA III based hard drive and yes, you can just use a SSD and for this I would recommend a Samsung 850, 860, 950 - 990 series or even later drive and here this is based on actually using them on a server. The size of a SSD can be from 256 GB upwards unless the SSD will only be used to store the O/S such as Linux and its core programs etc. If doing it this way, then a SATA III (or faster) hard drive with a speed of 5400 - 7200+ rpm speed such as a Western Digital Red or Black drive will fit the bill without it costing a lot while giving a warranty of 3 and 5 years respectively and yes, they usually last a lot longer.
If you will have say, more than four users working with ACAS at the same time, it is suggested to use a WD Black drive that is faster and has a five year warranty where the size is 1 Tb but could be larger, if you plan on running other applications on the computer as well, see later.
If using a SSD, read the discussion about SSD's later in this manual.
An additional drive should be installed to act as the back up medium for all ACAS data files and if needed the (Linux) system itself.

This computer can also be used for a member of staff such as yourself for normal use such as word processing etc., but see the discussion regarding the possible need for it to be on every day, 24/7 (24 hours a day, seven days a week).

Other equipment that also might need to be on 24/7 are the printers used for printing invoices, packing notes which may be located in respectively, the sales and packing/shipping departments, where they are set up to go to sleep when not used after a certain time frame therefore saving electricity.

2.   Decide on the operating system and here I recommend using Linux and there is a lot of different distributions available and of the one's I have used, I can recommend Mageia and Ubuntu (using the LTS versions) based on personal experience.
In both cases use a 64 bit version assuming the computer you will use has a 64 bit CPU and almost all have these days and for that matter many years.
The LTS version means Long Time Service which indicates that it does not need a major upgrade for a minimum of five years before a new version is made available and even then you still have around another year or more before updates are terminated for it, where you would upgrade it to the next LTS version and this allows for any defects to be found and fixed by the vendor / manufacturer. Any updates during the period of five plus years takes minutes to do as against Windows which can take one or more hours to do including having the reboot the computer one or more times.

If you need to use a Windows O/S then consider installing for v10 and v11, with WSL 2 (or later) which you can install and then using it, install a Linux distro say Ubuntu or may be Fedora (42). This should only be done once you have downloaded and installed all available windows updates.

This way you can continue to use the windows environment but also have the Linux system running. For WSL see the Microsoft (software) store but you can also install it using a command prompt with slow--install --enable-wsl2. For more information on WSL, see link https://learn.microsoft.com/en-gb/windows/wsl/compare-versions.

However, also read https://github.com/microsoft/WSL/issues/4166 and if not resolved, do NOT go down the route until it is - it has been outstanding since 2019 :(.

3.   Having decided and selected the OS, download it and then install it. Note that Linux is a free to obtain and use system, but some vendors, such as Redhat can be expensive for their chargeable versions, and for a small to medium company, you have no reason to use such a version.

For technical issues using Ubuntu or Mageia there is a good forum community for each distro (distribution) where problems encountered can be discussed and a quick fix found if not already reported in the forums by a previous user and to do this use their search engine with the issue typed in.

4.   If the system will also be used as a normal computer for use by a staff member then the version of Linux should be for a desktop, other wise use the server option as that does not have installed the typical extra software installed for possible use, such as word processors etc. If in doubt use a desktop version as you can always remove via the package manager unneeded software packages such as word processors (Libre Office), etc.

Remember this computer will always need to be operational at all hours that staff will use the ACAS or any other system and allows for anyone working from home outside normal hours such as weekends and bank holidays.

This system will have to have some back up procedure in place even if only to back up to the cloud or another computer located outside the office - in case of fire, flood, theft, etc. The same should also be considered to the process and procedures to create the system in the first place along with a list of any updates to the hardware set up.

The use of a desktop type computer over say a laptop reduces the risks of theft as well as the inconvenience of mistyping text after you accidentally touched the touch pad and moved the position of where you are typing / entering data - Yes, spoken from experience.

5.   If you are in an area where the risk of a power failure is likely, the use of a UPS (uninterruptable power supply) is also a good idea and this should be at least a 1000Kva model that is connected to the computer with software to monitor the system that can also shut down the system in the event that the battery drops below, say 25% and also starts it again when power is restored. APC makes smart units that connect to the computer via a USB cable and these units have a battery with a normal minimum of five years of life and often a lot longer, depending on the number of power cuts over the period - the less the better. Usually changing the battery in these UPS units take no more than five minutes and the unit can remain on while doing this change. Make sure you have a some screwdrivers

to hand along with strong tape such as Duck cloth tape and good scissors. Now this entails opening the front cover and lifting it up to sit on top of the case, a screwdriver to loosen up the two screws and remove lid, pull out the battery enough to see the connectors making a note of where the red and black or blue one's are. Now note the pull tape fitted (OK, there might not be one but make one up for the new battery fitting one end to the bottom and the other to the front of the battery by double folding it for a good grip. Then sliding the battery out so you have clear access to both terminals, placing the new battery near by then disconnect the red and black terminals and pull out the old battery. If you look at the old battery you will see that a strap made from strong cloth tape is used to help with pulling it out so if not already done so, make a new tape pull (if not fitted on the new battery) and fix it beforehand and once done slide it in the same way around connecting the rearmost connector first (black) then the closest to you (red), last. Fully slide it in making sure the tape pull is seated the same as the old one was. Close and screw in the flap and finish off by refitting to front cover. Job done. Place the old battery in the box used for the new one and recycle it with the supplier of it or your local recycling facility. Don't forget to create a label with the install date on it to the top of the UPS and to top of the battery for your records.

For full Linux install, you can download these distro's direct from their websites at :
Ubuntu :   https://ubuntu.com/download/desktop (for the desktop version)
                   https://ubuntu.com/download/server   (for the server one) and
Mageia :   https://www.mageia.org/en-gb/downloads

Again, there are many others. (Note these for for a full install and not through using Windows WSL, as I think, they may be modified versions.)

You will need to install as part of Linux the GCC C development system including libraries although for most, they are automatically installed but check any way.

6.   For more information regarding the installation of the operating system please see the ACAS - Building the ACAS System manual, but for now let discus the various options of how to operate the ACAS system.

7.   We will assume that you will be using a Linux distribution and you have it set up with a password for the root (administrator) account and will be using it as a personal computer with your user name and password - NEVER use the root user account for normal work, only to administer the system such as installing new software and that can be done using the sudo bash command if set up. Many distro's set this up as standard but not all of them, so you may need to make a change in the file /etc/sudoes by using a text editor such as sudoedit by first running sudo -s and then entering the root password then run sudoedit /etc/sudoers

Search down until you find lines that look like :

```
## The COMMANDS section may have other options added to it.
##
## Allow root to run any commands anywhere
root    ALL=(ALL)        ALL
```

Now, after this last line add yourself and any other primary user you wish to allow these privileges to generally enter this text after pressing the keyboard Insert key:

```
vince    ALL=(ALL)         ALL
```

Where 'vince' is the user name to add. you can continue this for any other users but be **careful** who you give this privilege to. You must only use the command sudo for system administration purposes **ONLY**.

Press escape then, when cursor moves to the bottom of screen, enter : (colon) then wq and (return).
Next exit sudo by typing exit (return key) when finished.

How can ACAS be accessed and used?

There are two primary ways to use it (but there are also other possible ways but all based on the same theme):

A.   The (computer) system is only used to store the data files that are needed by ACAS as common files or,

B.   To store and run a data base system such as mysql or mariadb (and both of these are available as community versions which is free to down load and use).
These will not be offered with technical support from the suppliers but you can obtain much, using their forums when you have questions regarding operations or set ups etc. if the supplied manuals do not cover the areas you are interested in but, setting up basic systems will do the job you require without any stress. Both of these, also offer a parallel processing protocol where another computer can also be used to run the data system and any changes made to the primary system is also made of the other one - therefore you have a automatic back up of your data and this second system could be a cloud based one assuming you are running LAN type network (using a cable) via your broadband router which is using a high speed broadband facility where upload speed is enough to transfer the data to the cloud servers, say equal or above 20Mb.

Now for both options, ACAS users can simple access the data when running ACAS where all computers are connected to the same LAN (Local Area Network) or if some users work from home all based around your broadband router that is used to create your network whether wired or Wi-Fi but wired is more secure and faster. In this case they will connect to the router via it's IP address or using a pre set DNS URL address such as applewood.linkpc.net as an example of a URL. Note in this example the sub link address (folder) is hidden from view, so if not known, a user cannot see and access it anyway.
Setting up hidden folders is fairly simple under Linux and not much more difficult for the latest Windows version.

C.   Next is another two options and as stated above, all users can access ACAS data files or the data base from their own computer where each computer is set up to share the data that sits on only the *one* computer. If they are working from home they connect to your router using the controlled site address set up for internal work as against that your customers can use for what ever reason or application. Customers must NOT have access to internal applications such as ACAS and this can be controlled by all ACAS users being members of the acas user group as one example - see more later.

D.   Another option is that where the ACAS server is Linux based then all users have an account set up on that system along with their password and they all log into that system to run all ACAS applications, i.e., such as ACAS, irs, sales, stock, purchase etc. where ACAS is a menu program that will allow selection of all the ACAS systems.
For extra security, if some staff members should only be allowed to access specific systems then you can, having created an account and password for each, also define a group name for each process such as irs, sales, purchase, stock etc. as well as the master one for acas as acas.

If user A needs access to say sales and stock then you add user A as a member of groups sales and stock only and if user B needs stock then made B a member of group stock, etc. Being a member of acas allows access to all of ACAS systems but adding them also into each one does not hurt - just a bit more typing as at some point you might well wish to restrict access for some by easily removing a user from group acas so they are left with only being a member of specific groups.

For security and to help protect the ACAS system, the program that allows changes to the parameter file (sys002.so) should be set to the user account of the ACAS manager or administrator. This program, once the ACAS system is installed is stored as with all the other programs in folder ~/bin and these should be configured as read/execute by all but for the sys002.so file that should be restricted to read/execute only for the user as the acas administrator.
 [Note that this administrator is NOT the same as the computers administrator who must never be allowed access remotely and allow this is 'normally' set as standard it should be double checked that this is so. There is no reason why admin work should ever be needed for a remote user even if they have to come into the office for some reason to fix a problem.]

This way all users are actually running the system on the server and access the data on their system using say SSH to gain access etc. to the server therefore making the system secure. Another addition is to record all of the computers network MAC codes belonging to each user that will be accessing ACAS and recording it into additional Linux security functions that check that the computer connecting to the system is known as well as the user. Of course if a user has access to more than one computer such as a laptop then that also has to be registered to use the system via its MAC code. In addition to a MAC code you could also include the computers CPU and the serial number - assuming they have them (not all manufacturers of CPU's do so. So with all these elements in use they can access ACAS or any other applications when connecting to your network which prevents unauthorised persons from attempting to gain access. There are other security features that can also be turned on to improve all such security if needed - talk to your IT support people internally or a company about options.

This also allows for the use of more basic computers to access the ACAS system such as low cost baby systems such as Raspberry Pi that have a cheap monitor, keyboard and mice, where the PI can cost from £50/$60 or less, and monitor, keyboard and mice for under £100/$120 as the computer does not require any primary data storage of its own but could use a SSD connected, if the need later arises.

ACAS General Set Up

General Set up

Lets continue with the general set ups. It is 'assumed' here that you will use your user name as set up from the above for the install and use of ACAS but you should consider using a specific user for this, other than yourself - be original say, and use the user acas. Doing this with Linux to create a new user and Group of the same name and this should be also set up with a password but that depends on your needs. Make sure all passwords are not easy to guess and are at least 8 digits in length as a minimum. These could be system generated if needed.

All users of the ACAS system must belong to the acas group or one of the sub systems if it is to be restricted such as sales, purchase, irs, stock etc., in order to use it otherwise they will not have access to the programs nor most of the data files. If you are using the RDB database from MySQL or Mariadb for most distro's the users do NOT have to be members of the mysql data base as you will allocate their user name with a password to this service when setting up the ACAS database on the mysql or mariadb system.

In order for these restrictions to work to specific ACAS systems the programs associated to each has to be owned by the same group name as well as acas and here you will need to be careful creating this, see more details shortly.
This second ways of using ACAS is to restrict who has access to what so, if not needed use option one where the data is shared by all users using their own computers.

Now to help restrict users between systems after installing ACAS and here it is assumed that all of the programs are stored in folder /home/acas/bin then you have to set each up in addition to the fact that all are owned by user acas but not ** means files starting with text and followed by any others :-

Program name	Group 1	Group 2	Group 3 (restricted)
general	general	could also be member of irs	
gl*.so	general	-- ditto --	
irs	irs	could also be member of general	
irs*.so	irs	-- ditto --	
sl*.so	sales		
sales	sales		
st*.so	stock		
stock	stock		
purchase	purchase		
pl*.so	purchase		
sys002.so			acas-admin

   This program allows the ACAS system parameter file to be edited.

Note that the invoicing functions are contained within sales and similar one's (purchase ordering) for purchase.

Data storage methods

The benefit of using a database over the Cobol data files is that it minimises any issues when accessing any of the sub systems by more than one user at the *same* time doing exactly the *same* thing such as entering invoices. The simple way of getting around it and as used by many of the commercial users is that one user enters in the morning and another the afternoon and the same applies if working the weekend. Of course this only really comes to a head for busy companies when you get a lot of orders outside of an online ordering system - more later but any such online system must have a provision to update an invoice number, created, if it is a duplicate one, by getting the next number available and here the numbering method must differ between the online system and ACAS with a suggestion of using differing prefixes as the number such as starting all invoices by the year followed by one number for the system, i.e., 251 for ACAS and 252 for online. This way the invoices numbers will not clash between systems.

You will have to remember to redo these prefixes after the end of the year ready for the new year and do so manually at least for ACAS by going into the parameter set up program and changing the next invoice number to be used. For the online system check what it supports in order to do the same. Note that using this approach will allow you to process a maximum of 10 million minus 1 per year. If the online system has 10 digits for an invoice number as well it will be the same but it could be using a smaller size invoice number.

Stock Control

For the online systems, they can access the Stock Control system to check on availability of stock in real time and then reduce current stock by the order quantity, ready for the next possible order of the same product by reducing down by Quantity on-hand by the current order then saving the stock record. The same applies to generating receipts and invoices to be printed using ACAS and likewise picking / packing sheets for the packing department although the printing of these reports does not effect this value.

It is also possible to add invoices created by the online system to ACAS using the File Handler that process these but here there are two elements, one the header that hold the base details of the order and the second that holds the details of each order line i.e., the stock item along with the price and other associated information including stock location for use with a packing or picking note.

This way the ACAS system has total control of production of invoices other than the invoice number used. Of course if the invoice number size is not the same as used in ACAS you will have to pad out the size to match if online uses a smaller number of characters for it. Here the only difficulty is if it is the other way round in that the online system uses larger numbers although that said I have not come across any but, it could happen.

Method of data handling in ACAS

Here is the benefit of ACAS using FH (File Handlers) for reading and writing data to files and/or the database. These FH can be called by the online system as they are accessed using the C call convention so that the data can be shared across systems.

If the ACAS system is using databases such as Mysql or Mariadb, the the File handlers will, in turn call a specific DAL (Data Access Layer) that processes the extra handling required for a RDMS before returning back to the caller FH.

For more details on this, see the source code and the ACAS - Technical manuals. However for a technical overview here is how it works:

There is a different FH for all primary (Cobol) files and likewise for a DAL so for the stock control data record the FH is acas011 and for the DAL it is stockMT. For the actual data processing of a file, the specific FH is used (called) and it will processes any requests for data reading or writing for a file, however if RDMS is being used the FH will call the specific DAL to handle data reading and writing and at the end of such process will return to the FH that will in turn, return to the caller program.

The automated usage of a data base over files is reliant on accessing the system fields within the ACAS parameter file, namely the field File-System-Used, which when set to 0 (zero) means (Cobol) files are used and when not = zero, a data base is used. If the online ordering system is on a different computer, than that computer, must also have the ACAS system installed as it will be using a very small part of ACAS even if only the file handlers and runtime system. In this case only the modules in the common folder need to be compiled and the *.so files made available to the online software to access via a C type call.

Any software updates to the ACAS system will also have to be made to the online computer as well and at a same or similar time so that the system will match up. This could be done say at midnight on both systems or some other very quiet time period. Both system MUST be shut down while such updates are carried out along with any testing of both systems prior to making them available to users or customers, etc.

Here is a very good reason for doing such updates over a week end or a bank holiday while there are no staff working - just means that customers cannot place an order for the period of time while this is happening - If available a message that the system is undergoing maintenance for customers to see instead of the normal service screens.

That said, only ONE user should be adding Invoice into Sales or Purchase Ledger at any one time and this is due to the automation of invoice and folio numbers being allocated otherwise, there is a very minor risk of an attempt to use a duplicate invoice number which the system will refuse when saving the transaction and the programs will allocate the next new number and try again. To help avoid this, even before a acas user has had a new invoice number selected, the system will read and then update the parameter record that contains the next invoice or folio numbers. In this way the record will always be up to date but there is a few milliseconds while this happens - and this is, the very low risk element as while computers are very fast acas users entering data / information in are not.

In the event that when writing out the invoice, an error occurs indicating that the invoice number is already present, the program will get the next available invoice number and try again and will do so again if the error reappears.

If you have not decided on what data storage method to use, at least at the beginning of using the system, use data files, as there are programs that will transfer all file data to the data base system if and when you are ready to use the database method and this process can be done as many times as needed without effecting the data files. This process must not be done when users are using the system as it is possible some new data updates

may not get transferred over, as a data file could be updated after such a transfer has or is taking place. The programs used in transferring the data from files to the database all end with LD, i.e.,analLD and to make it easier there is a Linux script called masterLD.sh that you can run which will call each LD program if the corresponding file exists in the currently active directory. The result of this process is the creation (or updating of a file called SYS-DISPLAY.log that sits in the ACAS system folder along with the parameter file. Using a text editor or 'less' or 'cat' in a terminal, the content will look some thing like :

```
20250217 21481050 invoiceUNL (3.02.00)     Cobol files in use
20250217 21481050 Records in = 0005 Records Total out = 0005
20250217 21481050 Process Ended.
20250307 14245336 SystemUNL (3.02.03)  Cobol files in use
20250307 14245338 Records in = 004 Records Newly Created = 001 Records Total out = 004
20250307 14245338 Process Ended.
20250307 14454415 analUNL (3.02.00)     Cobol files in use
20250307 14454415 Records in = 0017 Records Total out = 0017
20250307 14454415 Process Ended.
```

On the above example it is showing the processes for file unloads (UNL) to a .seq file but the process is exactly the same. Note that the ISAM load programs where the program name ends with RES does exactly the same which is the reverse of UNL.

Remember you **MUST** be in the directory containing your data files as pointed to using the environment variable ACAS_LEDGERS.

Linux Users

In order to set up a new user, all Linux distro's (distributions) have specific programs to do this and usually via a pretty GUI application such as for Mageia, and here, you would use the Mageia Control Centre then select "System" from the left menu list then select "Manage users on system" near bottom left. Select "Users" and you will see a list of the current one's installed and by selecting "Group ID" it will be re-listed by ID so look at names where user ID starts from 1000 (the one's below that, are for the Linux system applications).

You will see your user name there as more than likely set to 1000 or higher, so now using the mouse and the cursor select the first icon from the left which will highlight text saying "Add a user to the system" so left click that and you will get a few boxes to enter the new user name and here enter your chosen name for the ACAS system, say acas, the same for the login name and now choice a password and record it some where safe, it will also ask you to confirm the password in the next box and click OK and you are now done adding this user.
You should use the same procedure to add all other possible users within your business that *will* use the ACAS system in whole or part such as just Sales Ledger. You can do this at any time later.

Linux User Groups

After each user has been entered in this way, go to the "Groups" option and scroll down until you find acas and double click it. In the new box select "Group Users" and you will get a list of all of the registered users in the system so scroll down until you find a user that

you wish to add to the specific user group acas, then click it to select, continue doing this for all the users you wish to add and when done click the OK button.
Note that like user names, group names are always in lower case,i.e., abcdef etc.

Do the same for any other primary users such as for sales, purchase, IRS and/or general, stock etc. and for each one add the users who can access each one, one at a time - this process only (as against the earlier one) is where you want to control who has access to what sub system as against allowing all user access to all of the ACAS sub systems.

When done, select File and Quit to leave the process and again at the top level menu. You are now done at least until you need to add other users.

A similar process is used for other distro's including Ubuntu but they will use other names for the GUI program to use.

These two processes can also be done in a terminal program and uses the commands groupadd and useradd and to get a detailed usage for each one type man groupadd or man useradd to get the various parameter options to use them - needles to say, the GUI tool is the easiest to use.

The following is documented in manual ACAS - Building the ACAS System.

It should be read for a fuller explanation of the process.

Additional install processes for Linux

If you have not done so already, boot to the new O/S.

Find and start the distro's package manager and search for SSH - you want both the server and the client packages and they must be the same version number and pick the latest version in both cases. Note you might be offered one for 32 bit and for 64 bit so assuming you have installed the 64 bit version of Linux always select that variant i.e., 64 bit for all packages. Using 64 bit Linux and its packages will be faster to use than that for 32 bit although the difference might be hard to notice but over the course of a day will add up.

At this point you can follow the procedure below to install the various elements for ACAS which includes the Cobol compiler and if not already installed the GCC C compiler (this is normally installed when installing Linux).

It is possible that your distro has the Cobol compiler available, so use the package manager to search for Cobol and if it is version 3 or later you can install that or install the latest which at time of writing this (16 January 2025) is v3.2 final release, from the website at https://sourceforge.net/projects/gnucobol/files/gnucobol/3.2 now select file
gnucobol-3.2.tar.gz - This is for Linux.
Note that the later versions will have various bug fixes and features installed, so it is always worth using the latest version.
Note it is anticipated that in 2025 a new release may be issued as v3.3 (subject to testing, etc).

For Windows users who are not using Windows running WSL2 and Linux, you can go to Arnold's website at :-
https://www.arnoldtrembley.com/GnuCOBOL.htm

Scroll down to "GnuCOBOL Compiler install binaries"
and select the one you need. I would recommend GnuCOBOL 3.2 BDB (13Aug2023) but if you wish to use the unrestricted version of BDB, it is the next one on the list.
Note that the restrictions are regarding if you wish to resell ACAS with the BDB libraries as against not, or let user get the library themselves. Yes I use the latest version - first in the list.

Create folders cobolsrc and cobolcompilers using :-
```
mkdir cobolsrc cobolcompilers
```

Continue with the install process as outlined in the manual -
ACAS - Building the ACAS system

Note the preceding and following steps should be undertaken on all the computers that you will use to run ACAS on although only ONE computer will be used to actually store the data files on or for that matter and if used the data base system such as Mysql or Mariadb.

However ALL computers will need to have the ACAS parameter file installed in folder ACAS or other name as the folder used, when running ACAS on each computer as this file contains a record who's data points to the main computer / server that holds all the data files and this copying of this file (system.dat) should only be done having set up the parameter file on the primary system / server and examining the content of the parameter file report to verify that all entered information is correct but note not all data is reported on. If this file get changed and the file to be used changed then this file must again be copied over to each computer say using a USB drive containing a copy of the file system.dat taken from the server system. Each copy should be checked for differences that may need to be made covering changes of path for each computer, if any and that includes if using a database instead of files that the correct address is being used and is accessible for all computers.

One of the reasons that the compiler and software needs to be installed on each user system is if the different computers to be used are in fact different in architecture in any way and these two processes will get around any such differences. Of course this also means that any ACAS source code updates are also copied across to each and the ACAS system rebuilt. You can of course get each computer to copy over the ACAS sources folder from the server system to each computer via the network links subject to the settings on the server system. Only one computer - the system acting as the data server must hold all of the ACAS data file (other than the parameter file which MUST be on all computers) that will run ACAS.

With the compiler and installed and tested as per the instruction, and downloading the ACAS sources and storing them in folder cobolsrc, and building the ACAS system, you can now follow the ACAS set up procedure as follows:

Step 1- The first step in system set up, is to create the system data directory for use by the various ACAS systems. If you used the standard installation script install-ACAS.sh, this has been done for you by creating the directory (directory and folder means exactly the same thing) ACAS in your home folder as well as installing all of the programs in your local bin folder where the environment variable PATH has been updated to include this bin folder again this should have been done with the installation script.

Step 2 - Set up the system parameters and this is done (and used) for all of the elements in the ACAS systems. There are two sets of parameters:

1. General System Parameters: These determine the company name, page lengths, system date, date format (European, International or American) the normal print spools (via the Linux printer support package - Cups) to be used, etc.

2. Groups broken down by sub system (i.e., IRS or General, Sales, Purchase, Stock etc.) is the specific parameters required, that must be set up for each system or ledger.

See the manual ACAS - Building the ACAS System, for detailed instructions as well as the meaning of all settings within system parameters. The same manual should be followed for setting up the pre requirements for S/L and P/L analysis codes, IRS (or G/L) Chart of Accounts etc. At this point you should use IRS over General as testing of General has only had very minor testing as I have not had the time to do so but in any event is only of use to

businesses that need support for profit centres and/or branch accounting but in any event can be done within IRS by making use of sub nominal accounts set up to support them.

Step 3 - You need to have set up IRS at least with the default CoA (Chart of Accounts) although you should make any needed changes to the supplied text file (using a standard text editor) prior to setting up the CoA, if only to match up with your operations - see the IRS manual for more details but remember to save a copy of any changes to a **new** file. Don't worry if you have missed a few accounts as you can always add more later at any point in time using the IRS system. Remember to print out the CoA for reference when setting up the other systems using the ACAS parameter file data for these systems as some CoA account numbers are **required** for the automatic systems to operate.

Step 4 - You *must* have set up Purchase Ledger prior to setting up Stock Control as data created in the ledger for suppliers is used but is not essentially required in Stock Control, as well as the analysis codes which are. Failure to do so, will result in an appropriate error message (ST104). Setting up the default analysis codes in Sales or Purchase for that matter will set up the one's needed for the other system. You may still need to set up one's for each that will help your business to see all of the statistics generated by the ACAS system day by day but this can be done a little later as and when required. You can add to these default accounts at any time as and when needed but before using them.

Step 5 - You should also set up Sales Ledger, at least the analysis codes (see Step 4), and one customer account i.e., Cash Sales will do.

Step 6 - Build the Stock system Item file by entering information for each stock item having, *already* set up the ledgers. Stock control as three fields for holder the Supplier account numbers as first, second and third choice of supplier for all stock items although this is NOT a compulsory field but is recommended for the primary supplier.
At this point *do not* enter stock quantities as these should be entered through the Add to Stock process. This should be done after a stock take is made when no orders etc. is taking place, such as the weekend or a bank holiday using printed stock lists to record such for each product sold in the margins of the report - to help save time print off, more than one copy and get your staff to help do this - it might be an idea to get more than one to go through the same stock products counting where you can confirm the counts and at this point verify that the stock location information is correct for each stock item.

As you enter stock items ensure you utilise the stock Location field, that is used to record where within your company the item is stored (see the Stock System manual for more information) but basically this field should record within it, the Building (office or warehouse), Room number, Shelving, location by shelf and within shelf, etc., so for example - O11-2-1-4F would be building O (Office 1), room 1, Shelf 2, level 1 position 4th along and at the front. This is just one example and you have ten characters to use so you can make use of hyphens or a full stop to break up the various letters or numbers as required for your environment. In this example, O1 mean Office 1 but could be W1 for warehouse 1. with room number possibly also indicating floor number if needed, etc.

This process should also be done at some periods during the year to verify that recorded stock held, matches actual but again say during the weekend when the business is other wise closed for incoming order processing. Here would be a good idea to use the Stock system reporting option to produce a location report where you can select of a report is

produced between two ranges of location, say between using the example above as location from as Office 1 room 1 (O11) to location to as Office 1 room 6 (016) where there is only six rooms in Office 1 to hold stock. Option two is to do a new page on change of location ignoring the first nn characters of the location field, in this case say where nn is 03 only do a new page on change of the first 3 characters. Note this is a new function currently being programmed at this point in time and is subject to change. There is also an option to do a double page change if the page number is an odd number to force a new page being used and this is required for printers that are set up to do double sided printing.

Any discrepancies must be verified and efforts to find out why there is any differences and for this purpose breakages, theft, etc. must be recorded and the missing stock items deducted from Stock Control. Of course the reason why it is happening should also be resolved. This applies to both less stock and more than is recorded - both are equally important.

If you are migrating your Stock Control system from an older software product you can use the program st060 to help transfer all of your stock to ACAS in one process **but** you will **need** to modify the program source, to match up with your old systems data in both format and content. You may well need to contact the software developers for these details and advise about the transfer if needed. It is important that copies of the file layouts used along with the detail of each field in each record for every file is obtained where ever possible as otherwise you will have to enter each stock item from the old systems report to the new ACAS system manually using the reports from the old system.

The use of the old system file layouts is essential to help you save time and the risk of errors when entering the information to ACAS. - Read the source code of st060 program, for more information. A version of st060 such as a new st070 can be created to do the reverse if needed at some time in the future, again you will need the file and record layouts of the other system in order to automate the process and avoid the need to manually enter the required data.

If you do not have the resources to do this yourselves we offer a bespoke service to do this for you, but it is chargeable on a time and material basis. Therefore you must have obtained the record formats and data layout of the old system before hand, as well as a copy of the data files. Once programming has been completed and tested against this data a up to date copy of the files will be required to transfer the data and this is best over a weekend or any other period of no new orders arriving even if it means shutting down the existing service for a short period. The time required for this is short, i.e., a matter of minutes if not seconds depending on the number of different stock items in the system but for say 1,000 items it really will be seconds but a 100,000, might run to a few minutes.

See inside front cover for contact details.

Read **<u>all</u>** of this manual for suggestions and procedures to adopt, when using this system and the manuals for the other sub-systems for their set up procedures. For detailed procedures for building and installing the ACAS system see the manual ACAS - Building the ACAS System, which sits with all the other manuals, in the ACAS-Manual folder.

This manual also includes all of the warning and error messages that can be produced from all of the ACAS systems in one place, along with additional information about common processes including the Parameter Set up functions and the data required.

A manual ACAS - A basic introduction to ACAS both overview and operations is in preparation, or will be as soon as I have some spare time.

So much to do and so little time for one pair of hands.