

F. Feedback and Technical Support

F.1 Introduction

Despite our best endeavours, there will be occasions when SATURN does not appear to do what you want to do, either because

- i) you are unaware that it can do what you want
- ii) you think you have an idea about what it could do
- iii) it actually fails.

In all instances we are happy to help you, and wish to encourage feedback. Just contact us at saturnsoftware@atkinglobal.com.

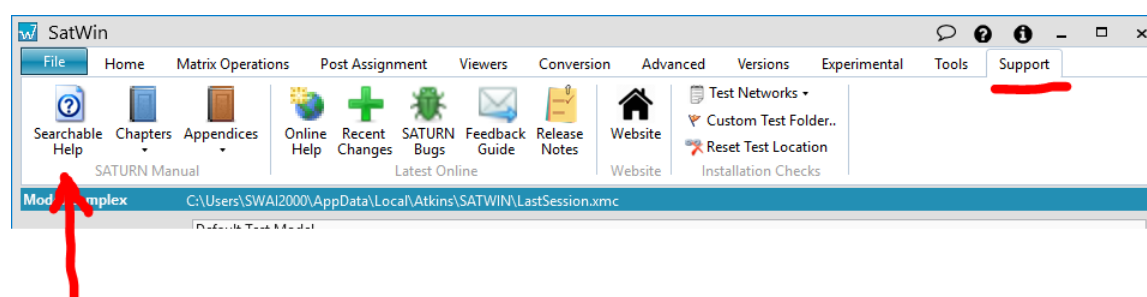
Please do not assume that we know about the problems, however trivial - it is surprising how often we hear things like 'oh but it's always said "number of buses" but actually reported the equivalent number of pcus'. If you don't tell us, we may be unaware and someone else may be incorrectly reporting it as the number of vehicles.

However, there are some steps that you can take to help us to help you, and we have put together this appendix accordingly.

F.2 Searching the Manual

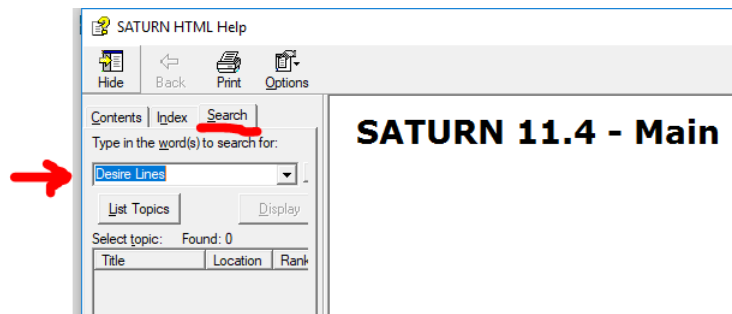
There is a lot of information in the SATURN Manual, and following through an example of how we use it may enable users to access the information therein more effectively. As an example, how do we answer the question "Can SATURN do Desire Lines?" using the manual?

We access the manual through SatWin, under the Support tab, and use "Searchable Help".

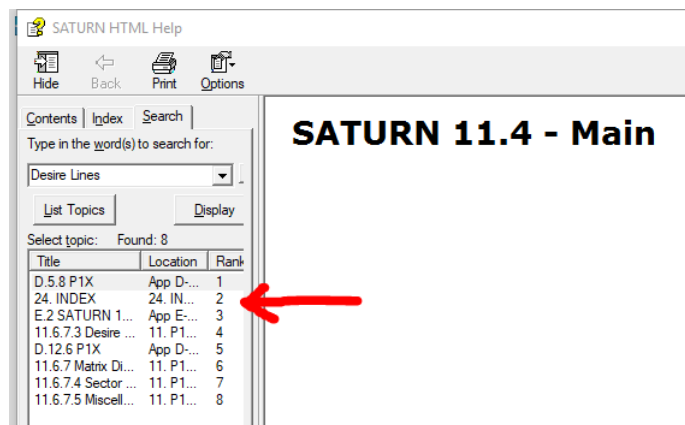


and then use the Search tab therein.

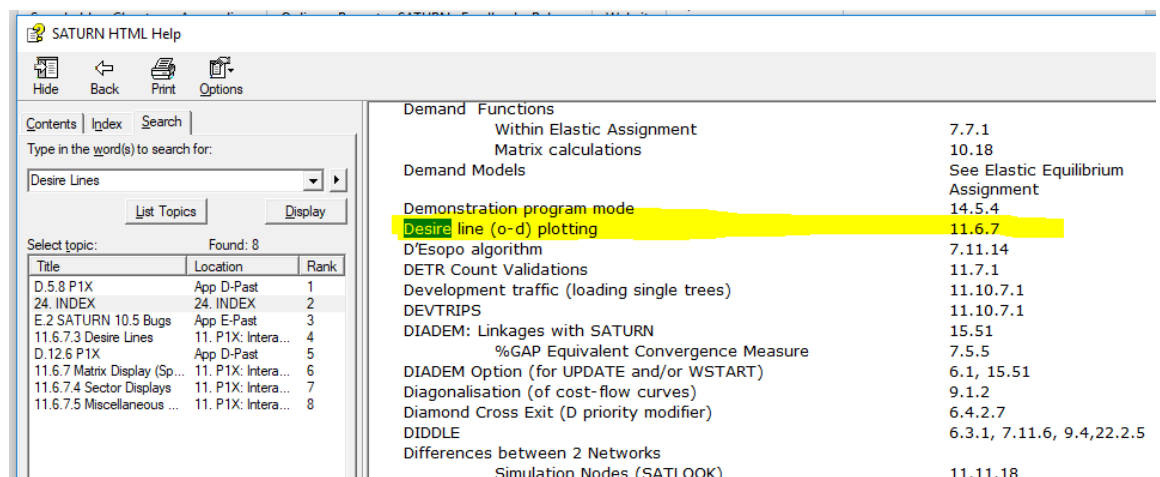
Entering "Desire Lines" ...



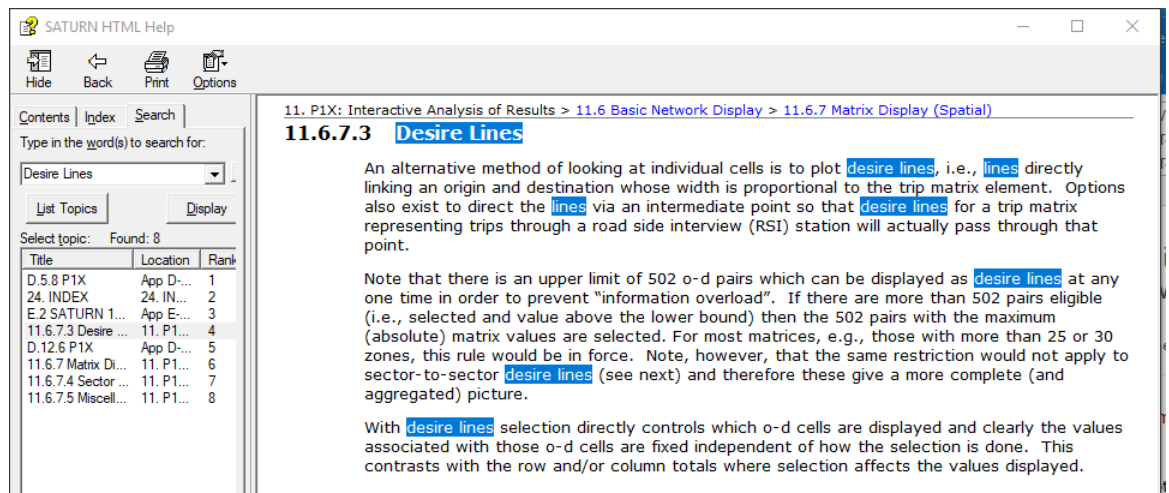
and clicking on "List Topics" gives you ...



It's always worth looking at the chapter "24. INDEX" first, as that will provide the main pointer, rather than casual references.

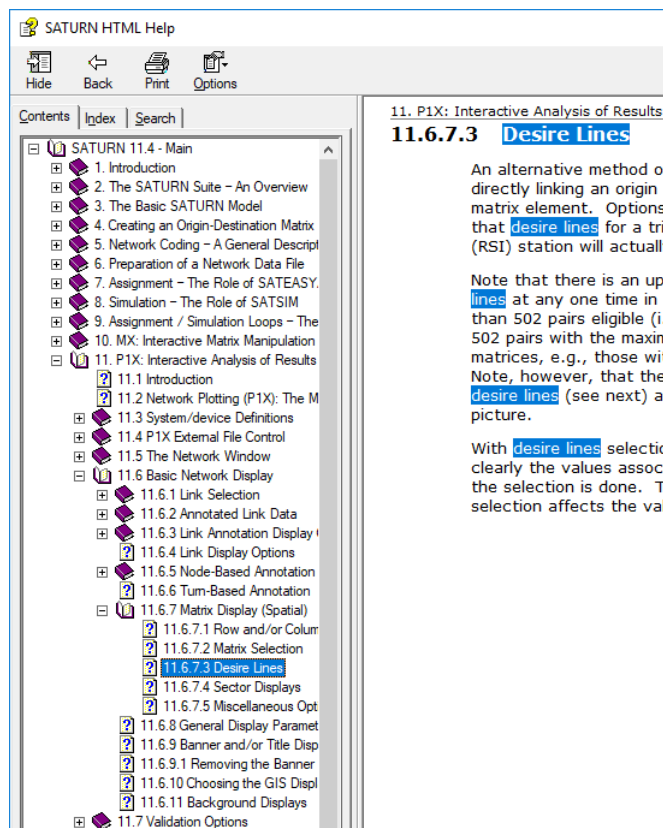


The main reference is 11.6.7.3 Desire Lines, so clicking on this gives...



... which shows the capability, but not exactly how to do it.

Now clicking on the "Contents" tab, will open the contents expanded to this reference so you can get the context...



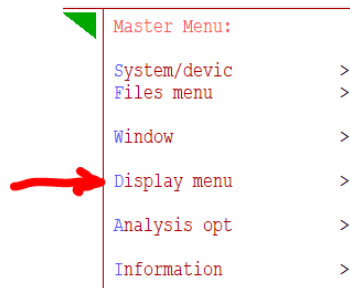
...from which we can see it appears in P1X.

So, we open up P1X on the assigned network of interest - note it assumes you've already assigned the matrix (but will allow you to look at other ones).

Finding your way around P1X, we admit, can be a bit awkward, but knowing a feature is there helps to give you confidence in searching the P1X options to find it. In this case, we know we are in "11.6 Basic Network Display", so we immediately try "Display Menu":

```

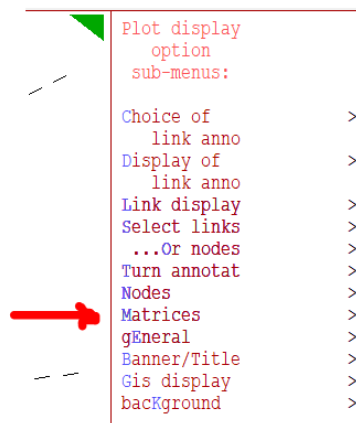
Master Menu:
System/devic  >
Files menu    >
Window        >
Display menu  >
Analysis opt  >
Information   >
  
```



and then "Matrices" ...

```

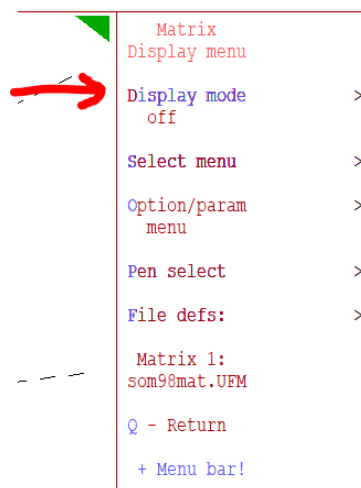
Plot display
option
sub-menus:
Choice of      >
  link anno    >
Display of     >
  link anno    >
Link display   >
Select links   >
..Or nodes    >
Turn annotat  >
Nodes         >
Matrices      >
gEneral       >
Banner/Title  >
Gis display   >
bacKground    >
  
```



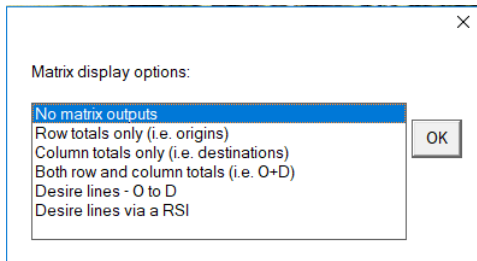
In the Matrix Display menu, we then click on "Display Mode".

```

Matrix
Display menu
Display mode  >
  off
Select menu  >
Option/param >
  menu
Pen select   >
File defs:   >
Matrix 1:   >
  som98mat.UFM
Q - Return
+ Menu bar!
  
```



to get to the display options...

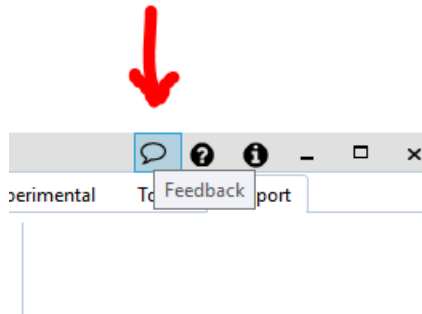


Now we can see we are in the correct area and can play around with the selection and option menus etc to tailor what we want

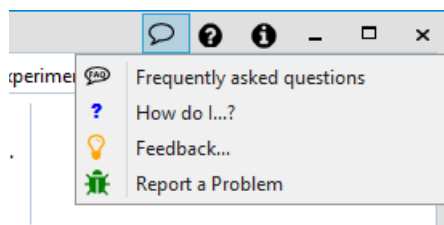
F.3 Feedback

The following shows you how to use the feedback tools available from the graphical user interface SatWin, (but similar are available in SatView and SatCoder as well). Even if you do not use SatWin, the principles of what you should provide when contacting us remain the same.

Towards the top right-hand corner of the SatWin application you will see a speech bubble symbol which, when you hover over it, will give you the tooltip “Feedback”:



Clicking on it will then bring down the menu:



Selecting:

Frequently asked questions

- will take you to the appropriate part of the website to give you access to the latest known issues that may address your current issue (eg that a bug you have found has already been reported)

The other three take you into forms to generate an e-mail to send to us. They all provide a space to fill in your name, organisation and which office you work in,

and a Subject. Please fill in the subject with a short but helpful title for the "conversation" you will be initiating - "SATURN Problem" is not particularly helpful, but "Select Link Analysis failing when selecting several nodes" is good.

How do I...?

- gives you a simple panel to ask a question

Feedback...

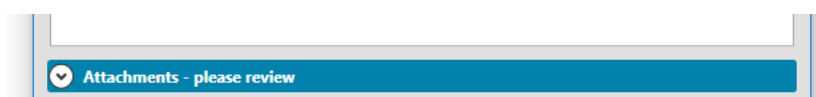
- gives you a simple panel for you to give your ideas for new features or improvements to existing ones etc for us to consider

whereas:

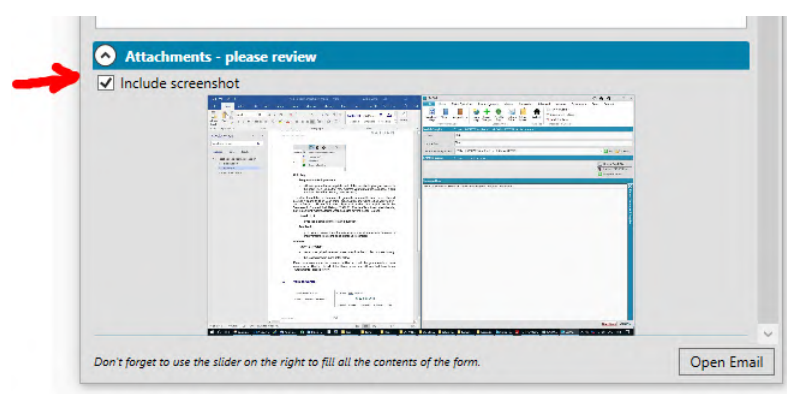
Report a Problem

- has a more guided series of panes to explain the problem you are having
- this is discussed in more detail below

if you hover over any of the panes to be filled in, it will give you a tooltip on what needs to be filled in. In all of the three cases, you will see that there is an "Attachments - please review"

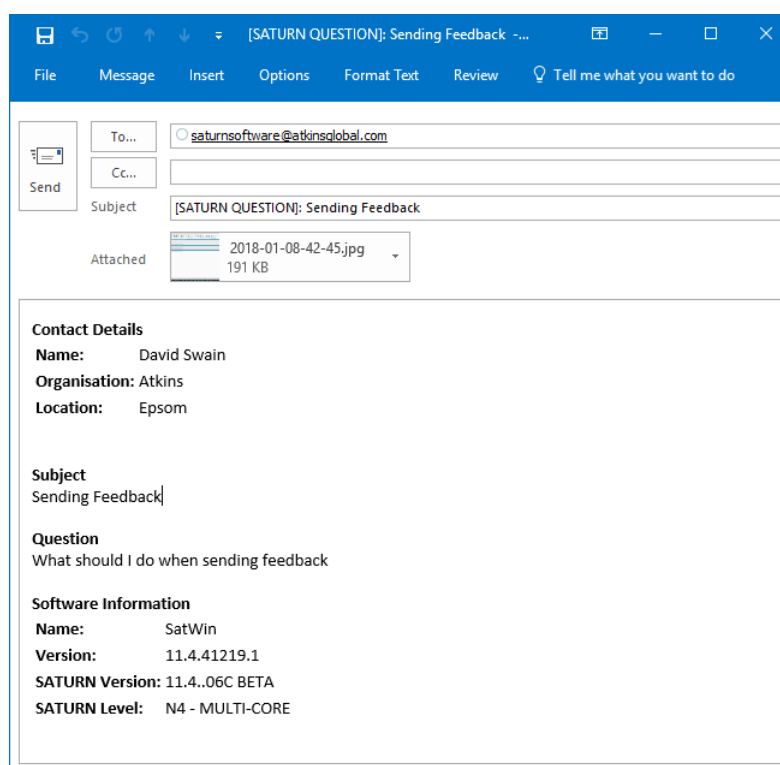


It will have automatically have added a desktop screenshot - it may contain sensitive information that you may not wish to send to us, hence the request for you to review the data. Click on the Attachments section header to expand the section and perhaps use the slider on the right-hand side to see what is attached:



and untick "Include screenshot" if you don't wish to send it. Of course, the more information you can share with us, the easier it is for us to address your problem or idea.

When you are happy that you have completed the information, you can click on the "Open Email" button at the bottom left of the feedback form. You'll then be able to review the email created in your system before sending it.



Note as this was from SatWin, besides automatically appending the version of SatWin in use it has also included the information of the SATURN version in use in the open model complex.

F.4 Reporting a Problem

If you are using the automated processes, then some of the following will be automatically included. However, the full list of appropriate information is listed here.

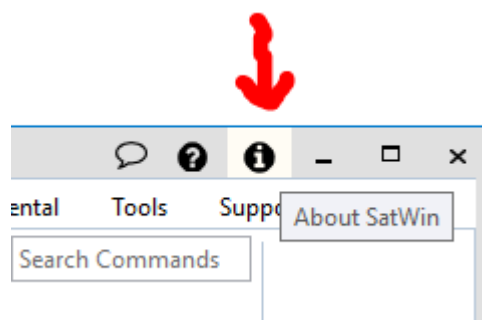
Name - your name

Organisation - your organisation

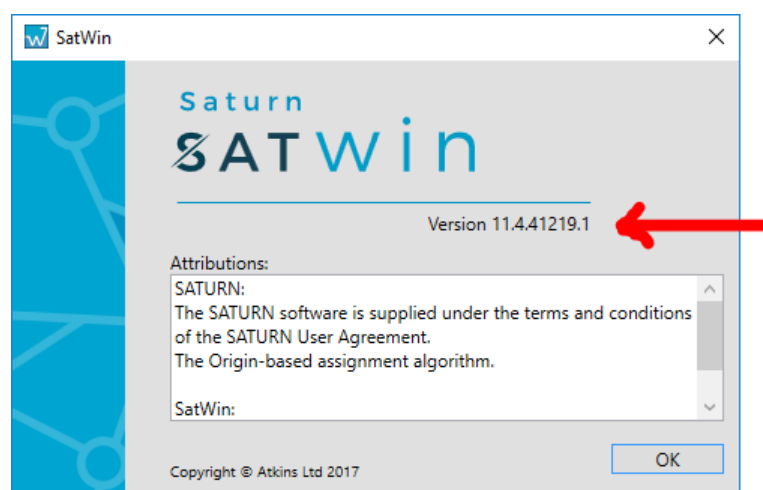
Location - your office location

Subject - a short but helpful title for the "conversation" you will be initiating - "SATURN Problem" is not particularly helpful, but "Bus flows reported in pcus" is good.

Version - the version of the software you are using, eg if it is the main SATURN program, v11.4.06D (including the letter for 11.2 onwards), the level (eg N4), whether multicore (MC), and if it is a dongle version. For the graphical user interfaces (SatWin / SatViewer / SatCoder) then the version can be ascertained by clicking on the "about" button:



and reading the version from the resulting panel:



Description - a short description of the problem (though more details will naturally belong to sections later)

Steps to Reproduce - need to say whether you were running through SatWin or batch files directly, and what you ran. In most case, you will want to add files to send to us, so it may be simply, for example

"ran:SATURN thisfile thatfile"

on the files thisfile.DAT and thatfile.UFM attached

Actual Results - need to say what was unexpected, eg the error message, or, for example:

in the resulting thisfile.LPT attached it has:

Bus flow on link 1234 - 6789 is 21 vehicles

Expected Results - continuing the example...

but in the original thisfile.DAT you can see there are only 7 buses on route 5N

so I expect 7 vehicles - so it looks as though you are reporting pcus

(not vehicles as PCUBUS=3.0)

It is important that when describing the problem, especially the "Steps to Reproduce" you are quite precise in what you have done - ie do tell us whether

you have been running from SatWin (eg check that your attached screenshot clearly shows what settings you have used). Don't forget if you have been working interactively in P1X (and selecting on the screen) you'll need to explain in more detail what you have selected, eg don't forget to tell us which link you have selected / area you are looking at. It may be that you'll need to try repeating the problem you had and translating your selection into a repeatable process - ie instead of "select an area in North Timbuktu" to look at is better translated to "zoom in to node 30526".

Of course, the more information you can give, the better and more quickly we can help. The automated system adds a desktop screenshot. It also adds a lot of system information, which can help us to follow through more complicated problems (some of which you may not readily know otherwise), though we do ask you to review this and remove it if you think it is irrelevant or contains sensitive information that you think you should not pass to us.

As in the examples above, we do suggest you send files to us to be able to replicate your problem. In the automated procedures, you will need to add these to the generated e-mail (ie after hitting "Open Email" button, and update the resulting email at that stage.

F.5 Files to send us

There are two main reasons for sending us files:

- i) for us to see from the files you are using what you actually have on your PC
- ii) for us to recreate your problem and potentially fix it and re-test the solution.

When sending us files please ALWAYS zip them up, even if there is only a single file. This is an easy way to preserve the dates of creation and/or modification of the original file(s) which in themselves can help the investigation. If the files are large, it is sometimes better to send them as several zipped directories, eg by period, or as matrices can be large, a matrices.zip and networks.zip for all the other files.

F.5.1 Preliminary understanding

For problems with the main SATURN programs (eg SATNET, SATALL, P1X, SATDB, SATLOOK, SATPIJA etc), in the first instance, it is always a good idea to look at the printed output associated with the step that is causing you problems. These files have extensions beginning LP (historical "line-printer" files) with the following letter indicating which program has generated it. The common ones are:

- .LPT - output from SATALL, the normal assignment stage
- .LPN - output from SATNET, network building
- ,LPP - output from P1X, the plotting software
- .LPX - output from MX, matrix handling
- .LPJ - output from SATPIJA

.LPM - output from SATME2

The .LP files contain a lot of information about the SATURN process undertaken – possibly too much – including a full list of all the warnings, serious warnings, non-fatal errors, semi-fatal errors and fatal errors generated. Before sending the files to us, it may be that the problem you've encountered has already been detected and reported in the .LP file.

We recommend that users have a look through the .LP file to see if there is anything obviously wrong – it will be useful to us if you provide the error information as part of the problem description, and you may even be able to resolve it more quickly yourself and save the time needed to submit a support query.

You should send the appropriate LP file(s) even if they appear incomplete (see Exception Errors section below), as they can confirm what version of the SATURN program has been used, how they have been called and contain more detailed information about the files used etc.

In many cases, the problem will arise from processing the information in the main loaded network file or .UFS file. It is sensible to send us this file at an early stage, though the SATURN processes pick up information from other associated files without the explicit knowledge of the user ("hidden" files), and it may not be possible to repeat your problem without us asking you to send further files. Typically, it is a good idea to send us the assignment matrix you are using as well as this will often be used in supplementary analysis (select links, cordoning etc).

So, in summary, typical files to send us to help us understand the problem are:

- .LP? - the printout
- .UFS - the main assignment
- .UFM - the matrix you have assigned

F.5.2 Problem recreation / fixing

If we believe there is an error in SATURN core programs, we will wish to recreate the process to fix the problem and test the solution. As the correction may need to be in the preparation steps, it is important that we are in a position to build the networks used from the source files. Matrices, however, can be passed as .UFM files. Starting from the source files means that we regenerate any of the "hidden" files and can fully test the problem not only using the current version the user is employing, but in later/earlier versions as necessary (eg to check whether it is a new bug introduced) or even using the latest software in development.

In this case, the typical files required will be:

- matrix.UFM - the matrix file
- network.DAT - the network file

but you will also need to provide any other files reference in that, ie:

- \$INCLUDE files

- KNOBS files, tolls, banned turn files etc.
- .GIS files - for "bendy" links as they affect length calculations and direction of approach at junctions
- PASSQ, PLOD, FILUP files that you may use

and any other control files you are using, eg:

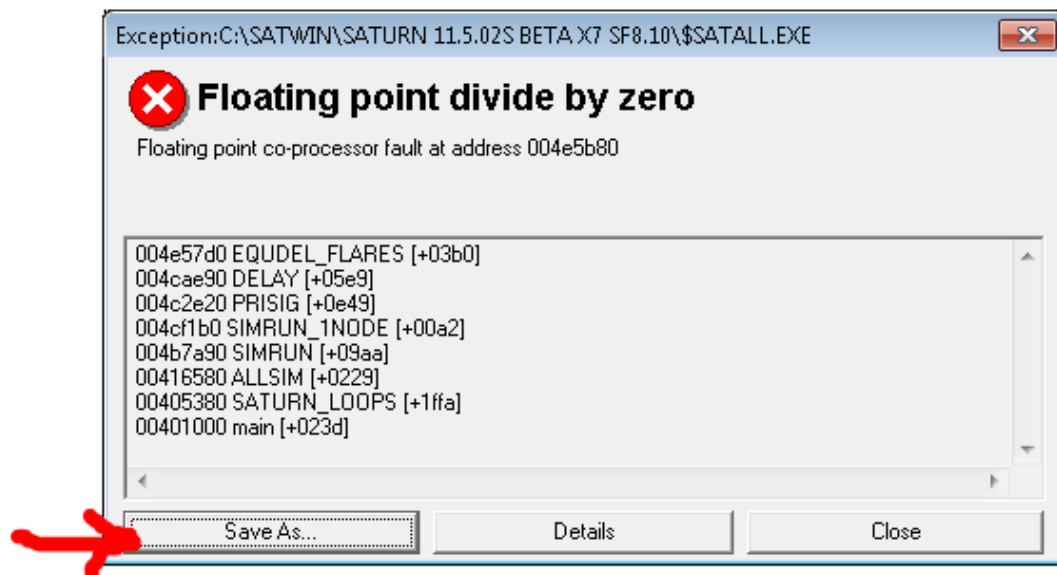
- process.KEY files
- control.DAT files for SATPIJA/SATME2 etc
- process.BAT - any user written batch files used in your process

These are of course additional to the files useful in the primary investigation.

F.5.3 Exception Errors

Sometimes the SATURN programs will fail with an "Exception Error". These occur when the system has picked up that the program is trying to do something that it can't do which hasn't been handled explicitly by the programmer. These can arise from file problems (eg restrictive permissions on files being set), or floating point numeric calculations unexpectedly going out of range (where the programmer didn't expect such occurrences to happen), eg exponentiation of a large number, dividing by a small number, dividing by zero etc.

These will throw up an error similar to this:



If you get an "exception error", such as this divide by zero, you should click on "Save As.." on the exception error window that is raised. It will prompt you to save a file called "error.txt", which you should save and send to us. This will give us a detailed trace back of where the program thinks it has gone wrong. Please also, send us the .LP? output file from the failing program run, though do not be surprised that the file looks incomplete as the error will just have aborted it being

written - in fact even some parts the program would have written but the operating system had not yet sent to the file on the hard drive (ie in the buffer).

F.6 Support Tools

To enable investigation of the workings of SATURN software, we have some tools that we occasional may ask you to run for us. They can be initiated by setting an environmental variable at a command line, or appear in SatWin under the Tools tab.

F.6.1 SATURNtrace

SATURNtrace enables us to follow through in detail what is happening in SATURN batch files. It can be switched on (and equivalently off) using the command:

```
set SATURNtrace=on
```

Occasionally we may ask you to run a batch file (or one that you have written) and send us the output that is sent to screen. This can be done manually (by copying/pasting) or by redirecting the output as follows:

```
set SATURNtrace=on
(
call USER_BATCH parm1 parm2
) 2>&1 > tmp.SATURNtrace.prn
```

Then of course you can send us the `tmp.SATURNtrace.prn` file.

F.6.2 SATURNlog

SATURNlog is a tool that reports from within the SATURN programs and is controlled by setting it to a numerical value, eg:

```
set SATURNlog=99
```

The information will be appended to a file in the working directory (ie from where the program is called) called `SATURNlog.txt`. If the file does not pre-exist, it will be created. It is up to the user to clear out unwanted `SATURNlog.txt` files.

In the simplest form, setting `SATURNlog=1` will cause the program to give a time stamped statement of its call and the parameters it received when called. For example, using the "user" batch file in the "Test" data provided with SATURN:

```
if exist SATURNlog.txt del SATURNlog.txt
set SATURNlog=1
call epsom
```

will actually log the programs called, with SATURNlog.txt containing:

```

20180109 113158.728 +0000 : MX =====
20180109 113158.743 +0000 : MX Matrix Database 11.03.10 05.01.15 11.3.12W 26/05/2017 Level N4
20180109 113158.743 +0000 : Command Line: MXM1 Epsom98mat
20180109 113158.946 +0000 : SATNET =====
20180109 113158.946 +0000 : SATNET SATURN NETWORK BUILD 01.04.15 11.3.12W 26/05/2017 Level N4
20180109 113158.946 +0000 : Command Line: Epsom98net
20180109 113159.415 +0000 : SATALL =====
20180109 113159.415 +0000 : SATALL SIMULATION/ASSIGNMENT 01.04.15 11.3.12W 28/10/2017 Level N4
20180109 113159.415 +0000 : Command Line: Epsom98net
20180109 113202.259 +0000 : P1X =====
20180109 113202.259 +0000 : P1X 11.3.12 NETWORK PLOTTING 28.04.15 11.3.12W 23/08/2017 Level N4
20180109 113202.259 +0000 : Command Line: Epsom98net

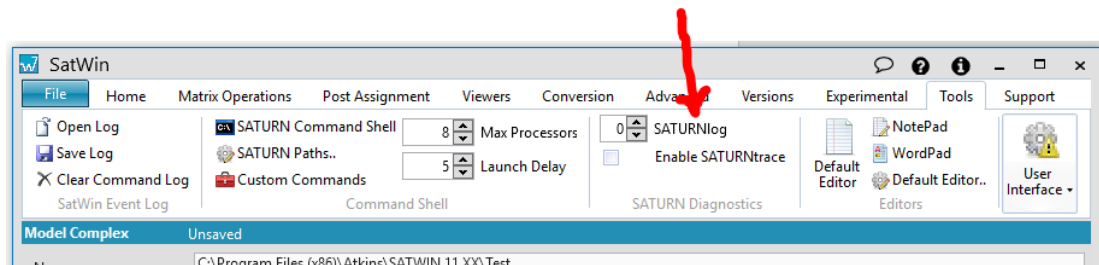
```

showing that it has used MX to build the matrix, SATNET to build the network, SATALL to do the assignment and P1X to display the results.

Other numbers are used at the programmers' discretion (including negative numbers to indicate logging - apart from the basic starting information - will only start when switched on within the program). Switching them on are likely to cause substantial amounts of data to be written to the file and for the program to run exceedingly slowly. You should not use them without instruction from the SATURN support team.

F.6.3 Invoking tools from SatWin


SATURNtrace and SATURNlog appear on the "Tools" tab of SatWin:



Simply set the SATURNlog number or tick the Enable SATURNtrace box as appropriate.

Additionally, we remind you of the ability to save an event log (ie of the programs run from SatWin) available at the left of this "Tools" tab. If your problem is associated with running several steps from SatWin, then it is worthwhile considering saving this log and sending it to us as part of the description of what you were doing when failure occurred.

F.7 Version Control

JOB NUMBER: 5197953		DOCUMENT REF: App F.doc				
Revision	Purpose / Description					
		Originated	Checked	Reviewed	Authorised	Date
10.9.10	SATURN v10.9 Release	DVV	DG	IW	IW	04/09/09
10.9.12	SATURN v10.9 Release (Full)	DVV	DG	IW	IW	22/10/09
10.9.22	Web release – Dec 10	DVV	AG	IW	IW	06/12/10
10.9.24	SATURN v10.9 Release (Full)	DVV	AG	IW	IW	06/05/11
11.1.09	SATURN V11.1 Release (Full)	DVV	AG	IW	IW	31/03/12
11.2.01	SATURN v11.2 Beta Release	DVV	JS	IW	IW	07/12/12
11.2.05	SATURN v11.2 Release (Full)	DVV	JS	IW	IW	17/03/13
11.3.03	SATURN v11.3 Release	DVV	SN	IW	IW	28/02/14
11.3.07	SATURN v11.3.07 Release	DVV	DAS	IW	IW	26/09/14
11.3.10	SATURN v11.3.10 Release	DVV	DAS	IW	IW	19/01/15
11.3.12	SATURN v11.3.12 Release	DVV	DAS	IW	IW	20/04/15
11.4.06	SATURN v11.4.06 Release	DAS	DAS	IW	IW	18/01/18
11.4.07	SATURN v11.4.07 Release	DAS	DAS	IW	IW	23/08/18
11.5.05	SATURN v11.5.05 Release	DAS	IW	IW	IW	16/07/20