

IAPetus



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Analysts & Programmers

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Windows, Y2K – the Operating System and Development Issues

In your opinion what significant event happened in '75 (see the end of the document for my suggestions)?

A story . . .

I was recently asked to travel to an overseas client to conduct a 'sanity check' on a very large Microsoft Visual Basic application. Our customer wanted me look at their application, which was being developed under Visual Basic 4, with a view to moving it to an *n*-tier client-server architecture using Visual Basic 5 or 6. They also wanted me to look through the code and generally pass comment on the 'correctness' of what had been written so far. The project was the biggest Visual Basic development I'd seen at that time. The total team size was around 30 and the total number of lines of code written (back then) was well in excess of 1,000,000.

The week started with a high-level meeting – all the senior managers and the project owner were present and we discussed the scope of the consultancy assignment – as outlined above. However, as the meeting was ending, the project owner asked me if I could also check the application's level of Y2K compliancy. He said that as far as he was aware 'they were Y2K safe' but if I could check this assertion, he'd be grateful.

As it happened, I had taken some of our own Y2K checking tools with

me on my notebook and towards the end of the week (I left it until later in the week because everyone assured me that they were 'Y2K OK') I ran our code checkers. The result – I found a four figure number of places in the code where the application would fail come the year 2000!

When I told the product owner, during our round-up meeting he almost fell off his seat – literally. The first question he asked was 'Why?' – and it is a good question; are developers that unaware of the issues?

Believe it or not, although most of the developers were aware of general Y2K issues no mandatory practices or checks had been set up to ensure that they coded in a 'Y2K Safe' way – it was assumed that they 'must know' what the issues were and that they wouldn't code badly. Left to their own devices however, they coded as they had always done – presumably believing that as the project was 'declared' aware of the year 2000 issue that someone somewhere must be checking, verifying and basically owning the problem of 'fixing' the application; i.e., they didn't have to check as someone else was (as Douglas Adams would say, 'SEP' – 'Somebody Else's Problem')! They were mistaken of course.

What is even more worrying is that in all the VBA/VB Y2K audits we have ever done as a company, we have failed to find a single one that is 'Y2K Safe' – repeat, every single

application we have checked, thus far, would fail in the year 2000!

Obviously, we're only asked to check 'Important' applications, payroll, invoicing etc., i.e. not applications that print today's canteen menus and I am sure that there are some big applications that are indeed safe. Fact is though – we haven't found one yet.

There is a general belief that, indeed I have even heard someone stand up at a Y2K conference and declare this (he was talking about

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IAP99 Symposium – page 6

This morning at the further education college where I'm Webmeister, they gave me an interesting task (the word 'interesting' is, I think, used in the same spirit as the Chinese curse, 'May you live in interesting times'). They asked me to draft an 'Acceptable Use Policy' for college IT facilities.

Wossat? You may well ask. Well, it's a document designed to provide a code of conduct for all those making use of the computer systems – we have loads of excellent computers available for student use, including Internet access.

There is a need to define what people should and should not do while working on college computers, some kind of rules. By now you are probably thinking of the obvious: no pornography, no over-the-Internet games of Doom or Quake, no hacking the Bank of England to change base interest rate...

That's only a small part of it. The first thing to think about is: why do we have computers in the college at all – and the answer is: to assist in the teaching and learning process, we are after all an educational establishment. Yet we

don't want to get too strict – human nature decrees that if our rules are too rigid folk will devote an awful lot of time and effort to getting around them just for the sake of breaking them.

Although we run fairly ferocious 'nanny software' to guard against unpleasant material on the Internet – the standard anti-porn, anti-racist, anti-violence stuff – there are three major problems with that approach. Firstly, some will always get through, so you need ways of dealing with it.

Secondly, it will bar perfectly acceptable material, perhaps because it is on a service which is notorious for having 'dodgy' stuff, so that entire website provider is blocked irrespective of the contents of that particular site; or because of the 'wrong' keywords being there – I came to grief last week looking for supporting material for an A-level biology class on the breeding and genetics of *Drosophila* fruit flies... I think it mentioned something as dubious as 'sex'! But the third and in my view most insidious problem is that it goes totally against what we as an educational establishment are trying to engender in our stu-

dents – enquiring, analytical and discriminating minds.

Well, I shall be drawing up the first draft over the next few days – and maybe I'll write an article for the next *IAPetus* about it. It's my belief that every organisation, whatever its nature, ought to have an acceptable use policy: that way everybody knows where they stand, just what they should and should not do – and those in authority do not have to base any allegations of abuse of the system on 'gut feel' or opinion, they have a code of practice against which to measure people's behaviour.

As you can see, I'm busy finding out that there's a whole lot more to the profession of computing than cutting code... some days I come home and complain that I've not done any work, I've been in meetings all day. 'But that *is* work', says my dearly beloved. What do you all think?

Is this sort of thought, perhaps, what being a computer PROFESSIONAL is all about, one of the distinctions between what we do and some of the other ways in which we might be earning a living?

Megan C. Robertson

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COBOL and the mainframe and how his company had achieved Y2K Compliance when someone asked him about his PC systems – what had they done there?), **'if you stick with modern operating systems and languages, then you shouldn't have a problem'**. Of course this is tantamount to saying that one should 'ignore' the PC – both dangerous and, of course, total nonsense.

Applications failing

There are of course really two ways for an application to fail. The first is called 'hard', the second, 'soft'. Hard means that the program essentially stops working – perhaps it causes a 'fault' (General Protection Fault) and the OS (Operating System) stops it. Hard failures are also typically permanent, i.e. failures can be recreated at any time and the program always fails in the same place. Hard failures are GOOD – you can usually find and fix the such problems easily and

seldom will they have done any damage. Now for the second type of failure. Soft failures are where the program seems to function normally, i.e. it appears not to have failed! Soft failures also have the uncanny knack of going undetected for a reasonably long time – after all, the program 'seems' to be working OK – why does it need checking?

Here is an example of a soft failure. Suppose you 'fixed' a customer's system by expanding dates, i.e. 99 gets expanded to 1999 – perhaps this is the year a person became a customer. This means that the data field that used to store 99 now needs to be widened to store 4 bytes (assuming that you're not compressing the four figure year in to two bytes worth of data). All fine.

However, this will mean that the overall 'width' of a customer record is widened too – by the same amount. Imagine now inserting/or updating a record. You calculate (assuming sequential file access) the starting point for a record n as $n * \text{record_width}$ and seek to, then read, the record. You now update

the record and write it back. However, if we have widened the

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The Director General writes

In the last budget the Chancellor announced that 'changes are to be introduced to counter avoidance of tax in the area of personal service provision'.

Members are rightly concerned that these proposals will cost them money, and could irreparably damage Britain's computing industry.

About 30 years ago, in a previous attempt to cut tax avoidance, the government decided it would no longer permit temporary workers to be paid without deductions. In future employers would have to collect tax and NI from every person they employed, unless that person was officially exempted. One way round the problem was for individuals to set up as one-man service companies.

With personal tax up to 83% on salaries, and 98% on dividends, most companies were run so as to avoid making a profit but maximise the expenses, which were tax free. This was disastrous for the UK economy, and eventually the government saw the light and cut the maximum tax rate to 40%. But that had another unexpected effect. While income tax rates have gone down, NI has gone up. A director pays employee's and employer's NI. This can now total 20%.

But NI is a payroll tax: it does not apply to dividends. What has happened recently is that directors have been drawing very small salaries, and taking the bulk of their money as dividends to avoid NI. Not surprisingly there has been a stampede to set up companies, by people ranging from the humblest health service workers to John Birt at the BBC. This is perfectly legal, but the Revenue says it is costing them £475 million a year, and wants, once again, to change the rules.

What is the Revenue planning now?

The Inland Revenue has issued a press release, IR35, which proposes 'that people working in what is, in effect, disguised employment will, in practice, pay the same tax and National Insurance as someone employed directly.' How this is to be achieved is not explained. The Revenue has the simplistic idea that

if it wasn't for the tax advantages, everyone would be happy in a permanent job (and subject, no doubt, to the full rigour of Europe's Social Chapter!). This might be all right for agency nurses, say, who are in jobs that continue indefinitely.

"the Revenue has no concept of the project work that provides most of the jobs in IT"

But the Revenue has no concept of the project work that provides most of the jobs in IT. Their theory is that if you can quote a fixed price for a job, that is contracting. If you are paid by the day to do what the client tells you, that is employment. Your agent or your client would be responsible for deciding whether you were an employee or a contractor. This suggestion has sent the agents into orbit!

Now, in response to a letter of concern from the Institution, the Revenue has suggested that 'intermediaries' (i.e. your agent or perhaps even your own company) could be 'certified'. If your company was in good standing with the Revenue certification would be simple (they say!): then you could be paid gross. But what happens to the money next? How are they going to stop you paying it all out in dividends, without introducing restrictions that will sabotage every company in Britain?

What is the IAP's position?

The IAP has consulted widely with other affected organisations. Most people, including the Independent Computer Contractors group of the BCS, think the present excessive disparity between taxation of contractors and employees must end. Under the ICC's '6-point plan' contractor/directors would be forced to take a fair proportion of their pay as salary.

The IAP supports this plan as far as it goes, but believes that any

practical plan will need to address wider issues. We have many concerns for our contractor-members, but even members in permanent jobs could be affected by this legislation. Many are involved with projects that will, at some stage, require the services of specialised contractors. It will be bad news indeed if, due to this legislation, such contractors are no longer in business.

That could spell the end of Britain's vibrant, entrepreneurial, competitive IT industry, and the end of our leadership in Europe. That is what the IAP wants to stop.

What is the IAP doing?

Since the Budget the IAP has been in contact with the other IT industry organisations affected by this legislation. Most of us are now backing a campaign led by the 360 Group, the accountants to ICL. Supporters include the BCS (through Mike Cullen's ICC), FRES representing the agents, CSSA and a number of agencies and end users. There are some heavy hitters in this group, and I believe the IAP will do better adding its weight to a concerted effort, than by trying to go it alone.

On 14th April there was a meeting of some sixty people at the 360 Group offices. Speakers from the floor included the MPs John Redwood and Vincent Cable, and representatives of important interest groups. There was wide agreement that the Revenue's proposals are impractical, would damage the UK economy, and would fail to produce a net gain for the Exchequer.

The meeting decided to set up a company specifically to fight this issue. The company will brief experts to consult with the various interests backing the venture, devise an approach that everyone can live with, then put it across.

The Revenue said most of the people who contacted them were in favour of the proposals. So after the meeting I wrote pretty sharply to put them right on a point or two! As a result the IAP has been invited to a discussion in mid June. I will keep you in the picture.

Mike Ryan

IAP Election 1999

Eight candidates stood for six places – in fact a seventh has become available as Andrew Morrey has decided to step down from Council for the time being on the grounds of ill health.

This means that there are five places for three years and two for one year. In common with most professional bodies, the first five

candidates are elected for three years, the next two for one year each, and the runner-up will be co-opted should a vacancy arise on Council during the year.

The detailed results of the Institution's elections for Council are attached – but the people elected are:-

Until 2002 Jim Bates
Ian Hargrave
Tom Hargrave
David Morgan
Alex Robertson

Until 2000 Cameron Hay
Nick Hindle

Runner-up John Weller

Detailed results

Phase 1

Jim Bates	29	32	33	36	39	43	
Ian Hargrave	27	28	28	29	35	45	73
Tom Hargrave	12	13	14	17	19		
Cameron Hay	12	12	12	13			
Nick Hindley	10	10	12			See note 1	
David Morgan	7	7					
Alex Robertson	46	46	48	52	54	59	72
John Weller	5						
No Choice	0	0	1	1	1	1	3
Total	148	148	148	148	148	148	148
Quota	75	75	74	74	74	74	73

Phase 2

Jim Bates	35	38	39	44	50	62	
Tom Hargrave	18	19	20	23	28		
Cameron Hay	15	15	16	17			
Nick Hindley	10	11	14				
David Morgan	10	10					
Alex Robertson	53	54	57	62	68	83	
John Weller	6						
No Choice	1	1	2	2	2	3	
Total	148	148	148	148	148	148	
Quota	74	74	74	74	74	73	

Phase 3

Jim Bates	48	53	58	67	84		
Tom Hargrave	30	31	36	42	54		
Cameron Hay	20	20	20				
Nick Hindley	15	17					
David Morgan	21	21	26	31			
John Weller	9						
No Choice	5	6	8	8	10		
Total	148	148	148	148	148		
Quota	72	72	71	71	70		

Phase 4

Tom Hargrave	37	40	50	67			
Cameron Hay	24	27	28				
Nick Hindley	20	23					
David Morgan	47	51	58	69			
John Weller	14						
No Choice	6	7	12	12			
Total	148	148	148	148			
Quota	72	71	69	69			

Phase 5

Tom Hargrave	48	56	78		
Cameron Hay	30	38			
Nick Hindley	32	40	54		
John Weller	27				
No Choice	11	14	16		
Total	148	148	148		
Quota	69	68	67		

Phase 6

Cameron Hay	54	69			
Nick Hindley	42	57			
John Weller	33				
No Choice	19	22			
Total	148	148			
Quota	65	64			

Phase 7

Nick Hindley	68				
John Weller	52				
No Choice	28				
Total	148				
Quota	61				

Note 1 – in the event of a tie for re-allocation of votes, the candidate who is re-allocated first is the one with the lowest count in the first count of the current phase; if there is still a tie, the candidate with the lowest count in the first count of the first phase is re-allocated first.

We are particularly pleased to welcome the following members who have been admitted as Fellows since IAPetus was last published.

John H. Lester BSc

John has been an IT professional for over 20 years. On leaving university he first joined British Leyland as a programmer, but soon moved to System Designers Ltd. in London. In 1983 he started a 5-year period with Shell in Holland, working initially on petrophysical and geographical systems and later on refineries. He returned to Shell for a further 2 years following a short break with Jaguar Cars. John's work has made him an authority on transportation systems. Since 1993 he has been Technical Director of Cairo Information Systems, the Dutch-based specialists in vessel scheduling and control.

Anthony D. Wood

Tony Wood qualified as a member of the Australian Computer Society nearly 30

years ago! He is an immensely versatile analyst/programmer and has worked in many parts of the world, principally on data communications (EDI, Electronic Mail, WANs, Intra/Internet, Mobile Systems). Recently he has taken a special interest in Y2K conversion: he is Year 2000 Manager of the Midlands Electricity Board, whom he has worked for since 1996.

We would also congratulate the following members who have recently been upgraded to Fellow.

Michael B. Armstrong-Smith DipComp (Open)

A psychiatrist in the RAF, Michael Armstrong-Smith began designing computer programs in 1982 to assist him with his work in statistical research, IQ and personality testing, and hospital administration. It was partly as a result of these pioneering efforts that the RAF opened its computer branch in 1984. Since leaving the RAF in 1986 his work has been

mainly concerned with EDI and Dataflex. He worked for 6 years with PHH of Swindon, the largest fleet management company in Britain, joining his present employers Logitech of Switzerland in 1993, and has been responsible for the development of Logitech's Expandable software system, now used throughout the world.

Jerry Fishenden BSc (Hons) MPhil

Jerry has been a member of the IAP since 1988. Most of his professional career has been spent in a variety of government posts. As Director of IT for the Health Education Authority, starting from nothing, he developed a fully networked UK-wide operation. Between 1992 and 1995 he led the team responsible for implementing the network for the House of Commons and the House of Lords. After a period as Head of IT at the Securities and Investments Board he moved to become Enterprise Programme Manager with Microsoft UK.

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record during this time, and not previously padded each record (to insert two empty bytes at the end of each record), we have now overwritten the first two bytes of the adjacent record – something we will only discover of course when we read one back.

Imagine now that there are a lot of records in this file – what is the mathematical probability that this bug will be found before it can do any damage? Answer – practically zero! It always is – it's called 'Sod's Law'.

Why sequential file I/O? Because, like many corporate systems, the data we are accessing is shared between many systems – Q. what is the most popular inter-process communication mechanism in the world? 1. DDE, 2. COM, 3. CSV? A. It is the sequential ASCII file! There is an old IT saying – 'Have ASCII, will travel'. By the way, the example above is not contrived, it really happened (and I'm sure it will do so again).

If a company is dependant upon desktop applications then that company needs to check those systems. Not just the boxes – that fix is easy (and, depending upon your upgrade policy, it affects relatively few machines) – the applications running on those boxes need checking too – irrespective of the language used to codify them, irrespective of the hardware used to run them. Software can last forever.

Of course, there is another question here – do IT Managers know what is running across their LANs and on the user's desktop – do they (even) know what applications

are important? The answer is generally 'no' – in the majority of cases, **they do not**. Nor do most of them realise that a Windows application is truly the sum of its parts and that these 'parts' (DLLs, drivers, ActiveX controls and DLLs etc.) may reside anywhere around the LAN or the WAN.

In general, the PC (including development based upon it) and the desktop is typically a badly managed area, as opposed to the mainframe, and if anything, there is a lot of 'head burying' going on as far as one can see. No one knows where to start and many are keeping their fingers crossed that nothing 'bad' will happen – very wishful thinking – as I have already said, **we believe that every non-checked 'important' application will fail (to date, we have not found one that would not).**

Here is both an example of the need to check dependencies and of the necessary knowledge that one needs to deal with this problem – I will start both with a question. Q. How should one decide how to expand a two digit year (offset – '01' for example) into a fixed year value? Is the answer 1901 or 2001 – or perhaps, something else?

How an upgrade could kill you

A. OLEAUT32.DLL is a dynamic link library, or DLL, that ships with Windows 95, Windows 98 and Windows NT. It is the 'OLE Automation' subsystem and is part of the Operating System software. Visual Basic applications (Versions 4 (32-bit), 5 and 6) all use this DLL to determine how to map an ambiguous date into a non-ambiguous one (as does any application that uses COM by the way; that is Visual

C++ applications, Window Explorer, Visual Interdev etc.).

Windows 95 (the original release) shipped with a version of OLEAUT32.DLL that mapped an offset (like '01') into the current century – today (20th century) then, applications that use this version of the DLL, believe that '01' means 1901. When the century rolls-over however, these same programs will assume that '01' means 2001.

Not really a problem so far, as the BSI (British Standards Institute) statement of compliance basically allows for this inasmuch as it states that as long as one uses an unambiguous algorithm to 'map' a date (and of course be able to state what that algorithm is) then one is 'Y2K Compliant'.

However, there is a snag. There are, as far as we can ascertain, at least 11 versions of this key DLL in circulation (Microsoft ship a new version with every copy of Internet Explorer (IE) and revision of the operating system (OS)) and some use a different algorithm to map the date than others.

For example, some, today, will map '01' through to '29' into 2001 to 2029 but '30' through to '99' into 1930 to 1999. Therefore an application written using the earlier versions, that, perhaps, because the user has installed a copy of IE, today finds itself using a later version of the DLL. It will now map a date differently to what it did previously. Therefore if being compliant MIGHT mean knowing the algorithm then

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IAP99 – A Symposium to be held on Saturday 18 September 1999 at Trinity House in central London

After a few quiet years, the IAP 'conference' is back in new and even more exciting form!

Organised by Council member Steve Cumbers, the day's programme is divided into three sessions covering the history of computing, electronic commerce and a look at the next century. The setting is as splendid as the proceedings – Trinity House is an historic and beautiful place in which to spend the day. It belongs to the Trinity House Corporation who run the country's lighthouses, and stands across the road from the Tower of London.

The Symposium will be chaired by Brian Oakley, the Chairman of the European Pathfinder Project and a past President of the British Computer Society. The cost of £70 + VAT (£82.25) for members of the IAP and their guests (£85 + VAT for the general public) includes a buffet lunch and cream tea... and rumour hath it that Institution President Jim Bates will be found 'at

home' in a local hostelry at the close of the proceedings.

Session 1: Mother of Invention

Kingdom of Kolossos – Anthony Sale, Director of the Colossus Rebuild Project at Bletchely Park.

Modern Computing – the First Half Century – Hamish Carmichael, Honorary Secretary of the Computer Conservation Society.

Paradigm of the Moment: Object Orientation – Steve Ash, Independent Consultant and OO trainer.

The Anatomy of Public Panic: The How and Why of Y2K Hype – Anthony Finkelstein, Professor of Software Systems Engineering at University College London.

Session 2: Perspectives on E-Commerce

E-Commerce: Changing the Business Culture – Brian White MP, member of PITCOM (Parliamen-

tary Information Technology Committee).

Shifting Business Models in E-Commerce – Linda Craney, Director of Prometheus.

The Law and E-Commerce – Mark Snelgrove, Solicitor.

Linux and Open Source – its Role in E-Business – Eddie Bleasdale, CEO Netproject.

Session 3: Back to the Future

Quantum Information: Making a Virtue out of Uncertainty and Entanglement – Timothy Spiller, Hewlett-Packard Laboratories.

Skills for the 21st Century IT Sector – Mark Grey, Director of the Oxford CPD Centre and Fellow of Kellogg College, Oxford.

Book your place now with the Institution office – I look forwards to seeing you there!

The Institute's 1999 Register of Consultants will be published in the Autumn.

If you are sometimes available for consulting work we recommend you to have an entry in the Register: it costs nothing and the Register is sent to everyone we hear about who might need a consultant.

Those of you who had entries in last year's Register or have written to us since with new entries or amendments will appear automatically in the 1999 edition. We will follow your most recent instruction with the minimum of editing necessary to standardise presentation and make the entries fit the page.

Some of you may like to add further amendments, or perhaps to draft an entry for the first time. A glance through last year's Register and the guidelines below will be helpful:-

Name and qualifications

We will print your first name,

surname, degrees and professional qualifications as shown in the IAP's main membership database unless otherwise instructed.

Entries for the Register of Consultants

Address

We will repeat what we have unless otherwise instructed. You may prefer to use the name and address of your business. We will print telephone, fax, mobile, e-mail and website details – just tell us what you want. We cannot overstress the advantage of giving a number where the phone will be answered during working hours by a real live person. We know of many occasions when members have lost business because they only had answering machines.

Work experience

Up to 70 words. Many potential employers know nothing about IT – that's why they need an expert. This section should be drafted with them in mind. Minimise IT jargon: just say in simple language where you've worked and what you did. Try to build in key words that potential clients might use to search the Register on disk.

IT Capability

10 key words. This is where you tell your fellow professionals what you know. Jargon permitted!

Remember the Register will be freely available to members of the public. You may get some junk mail or unwanted calls. That is the price you pay for publicity.

The deadline for entries is 31 July. Just post a draft to the Institution office, fax us on 0181 567 4379 or e-mail dg@iap.org.uk.

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one needs to know what version of the DLL one is using – the version dictates the algorithm being used.

Here are the OLEAUT32.DLL facts according to Microsoft (see <http://www.microsoft.com/technet/topics/year2k/whitepaper/auto.htm> for more information).

Incidentally, TMS has discovered, to date, 11 versions of this DLL.

Interestingly, one could treat the last entry in the table below (whereby the user determines the date window) as either good or bad news. In the first case, it allows one to configure a consistent behaviour with other versions of the OLEAUT32 DLL whilst, on the other, it means that a user that 'tinkers' with their own system settings (and changes this vital setting in 'Control Panel') could radically alter a program's function!

Y2K Date Settings

TMS has written a program to exactly mimic Windows 98's ability to modify the date window used by OLEAUT32.DLL.

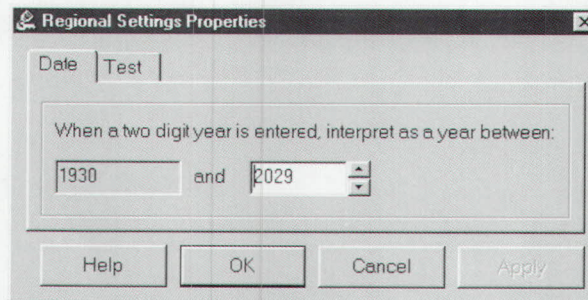
Our 'Date Settings' applet does two things. Firstly it installs the very latest OLEAUT32.DLL on your system (this version is even later than that shipped with Windows 98 – note all versions of Windows 95 and Windows NT can be upgraded to use this latest version) – you need this in order to alter the OS's date windowing algorithm (version 2.30 or later). Secondly, it provides a UI for manipulating the window which looks like that provided by Windows 98.

The main difference between the TMS UI and that used by Windows 98 is that we have added an extra tab through which the new date window can be tested. The 'Test' tab gives the user the necessary confidence-level inasmuch as it allows one to ascertain that OLEAUT32.DLL is indeed using the date window set through the TMS applet's 'Date' tab.

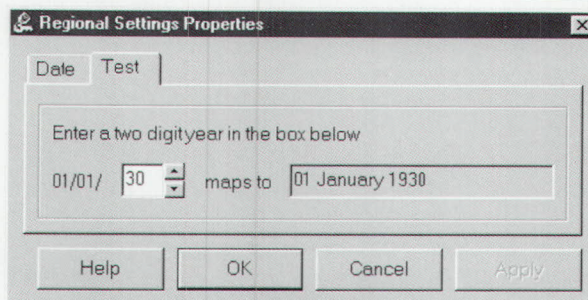
By default, upon installation, the latest version of OLEAUT32.DLL will use a 1930–2029 date window,

i.e. entering 30 to 99 for the implied year will equate to an actual year value of 1930–1999, 00–29 will equate to the years 2000–2029.

This application then allows the user of Windows NT and Windows 95 (any versions) to modify (and of course determine, in the first place) their system's intrinsic date window. It is an essential tool for any company to standardise on some corporate standard Date Window. It also provides anyone who installs it with the very latest OLEAUT32.DLL (presumably a more debugged version of the OLE Automation Subsystem – the system files updated by installing this application are: **oleaut32.dll**, **olepro32.dll**, **asycfilt.dll**, **stdole2.tlb** – all the latest versions) and, as it was written in Visual Basic 6 – the runtime is updated too (MSVBVM60.DLL).



Library (OLEAUT32.DLL) Version	Two Digit Year Cutoff
Before 2.20.00.4054	1,999
Versions 2.20.00.4054 to 2.29.xx.xxxx	2,029
Versions 2.30.00.xxxx and forward	user determined via the 'Control Panel'



What is even better - it is provided completely free of charge!

To get this application, all you have to do is download it from our web site – see http://www.themandelbrotset.com/html/date_settings.html. You will be asked to register before you can download it – this is just so that we can monitor how many downloads we get; nothing

GOING FOR A JOB?

Belonging to the IAP improves your chances of landing that new job.

Let us have details of any job application which you are making, and – without making any reference to you – we will brief your potential employer on the IAP and the importance of IAP membership as an endorsement of members' qualifications and standing in the profession.

Call Mike Ryan or Nicole Edwards on 0181 567 2118 or fax 0181 567 4379

more – however, please take the time to fill in the form correctly and provide me with comments on this paper. Please let us know if you have any trouble downloading the applet or indeed, using it.

Please note that we do not provide either a warranty or formal support of any kind for this application.

Please also note that this OLEAUT 32 dependency is just one 'dependency problem' – there are many others and, as I have stated above, very few people know how an application links (and with what, at runtime), resulting, at the very least, in 'surprise', at the most 'impending disaster'¹

Will I be effected?

Who is most at risk from this? In our opinion it is the SMEs (Small and Medium Enterprises) – they typically have neither the know-how nor the resources to locate and fix these problems.

However, as they are the mainstay of all the bigger businesses' 'food-chain', we all need them to be

fully compliant come the year 2000. Without these businesses, giant corporations themselves may face

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¹ It is vitally important to ascertain what files (DLL etc.) are being used – including where they are located and their version number. Only then can you know what exactly needs testing.

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an economic disaster – if big businesses are damaged, then so too are the public and the economy.

One last problem: Very few people are sharing information about the problems they have, or had – this means that, in a typical IT way, the proverbial 'wheel' is being re-invented time and time again. To that end TMS has created a Y2K newsgroup (or List Server) where SMEs can exchange views and information. To subscribe to this newsgroup (again, it is free) send email to TMS-List-Server@TheMandelbrotSet.com. In the BODY of your mail insert the words 'Subscribe Y2KChat' – the quotes are not necessary. Once subscribed you may then send messages to Y2KChat@TheMandelbrotSet.com – your email will be delivered to all registered users of the list. To unsubscribe, again, send email to TMS-List-Server@TheMandelbrotSet.com. In the BODY of your mail this time insert the words 'Unsubscribe Y2KChat'.

Our web site contains other useful material including a white-paper on some of these issues as

they effect Visual Basic developments. If you wish, please feel free to mention/promote this in any way whatsoever. The site URL is: http://www.TheMandelbrotSet.com/html/white_papers.html

A request

Please do all that you can to promote the 'humble' PC – it, we believe, holds the key to industry as a whole surviving the year 2000.

Make sure that your developers not only know about the problem but are writing code in a way that doesn't compound the problem – do it now!

Make sure that you know what you link with (as in dynamic) and its Y2K behaviour and list/manage your dependants – do it now!

Two last thoughts:

1. At the recent Microsoft DevDays it was announced that 53% of all professional programmers use Microsoft's Visual Basic – that equates to a lot of code.
2. Edsger W. Dijkstra, a very famous computer scientist (see biography in footnote) once said (1982) *'It is practically impossible to teach good programming style to students that have had prior exposure to BASIC: as potential programmers they are mentally mutilated beyond hope of regeneration.'* (<http://www.cbi.umn.edu/inv/burros/ewd498.htm>)

OK, perhaps Dijkstra didn't have Visual Basic in mind! If he did however, or if things have not changed since 1982, perhaps it is time for us to start praying?

Dr. Peter J. Morris

About Peter J. Morris (email: peetm@TheMandelbrotSet.com), Peter J. Morris Ph.D., an ex-Microsoft employee and Developer, is the Technical Director of The Mandelbrot Set (International) Limited (TMS) and an acknowledged authority on programming Windows (author of *Windows – Advanced Programming & Design* (NewTech) and co-Author of *Advanced Visual Basic 5/6* (MS Press)). TMS is a leading edge Windows only Software House focusing, primarily, on the application of Microsoft's tools and technologies. He was a member of both the ANSI X3J11 and X3J16 standards groups (C & C++) and was a founding member of the IEEE P1201.1/2 (API and UI) standards groups. As well as being a Fellow of the IMIS and the IAP, he is member of the IEEE (and the IEEE Computer Society) and the ACM. See TMS's web site at <http://www.TheMandelbrotSet.com>

Oh yes, '75 – well, it might be anyone of these I suppose . . . Microsoft Corporation formed (1975)

Carl Gustav Jung born (1875)
Jane Austen born (1775)

Edsger W. Dijkstra began programming in 1952 at the Mathematisch Centrum. He became a professor of mathematics at Eindhoven University of Technology in 1962 adding work as a research fellow with Burroughs Corporation in 1973. In 1984, Dijkstra left the Netherlands to accept the Schlumberger Centennial Chair in the Department of Computer Sciences at the University of Texas at Austin.

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