Provisional Programme for members' meetings 2000/2001 season

October 2000	**Internet Attacks**	Full day briefing
	Monitoring, detection, response, recovery and penetration testing.	
	How to monitor and detect. Attack methods, how to respond and	
	recover and how to test the adequacy of your security.	
Late October 2000	**High Availability Web Service**	Late afternoon
	How to achieve high service availability in the Internet environment.	
Early November 2000	**Outsourcing and Out of Control Projects**	Full day briefing
	What can we learn about strategic control and the flexibility required	
	in dynamic business environments. Legal aspects and recommendations.	
January 2001	**PBX Phone Fraud**	Late afternoon
	Why are organisations' switchboards vulnerable? How can you reduce	
	the risk? What should you do if you are hit?	
Mid February 2001	**PKI Security**	Full day briefing
	What is the cryptographic basis for PKI security mechanisms? Roles and	
	responsibilities - range and variety of services available. What systems	
	design decisions contribute to good security? Presentation of a case study.	
Late April 2001	**WAP Security**	Late afternoon
	Outline and architecture of a typical WAP-based mobile phone system.	

This provisional programme will be confirmed at a later date.

Further information on dates, venues and speakers will be published in this Journal as soon as details are available.

The late afternoon meetings are free of charge to members.

For full day briefings a modest, very competitive, charge is made to cover both lunch and a full printed delegate's pack.

Contents of the Journal

EDITORIAL

As some of you may know, I have been dealing with ISO9000 (Quality Standard) and TickIT (Development Standard) issues for some time and my latest hobby is implementing BS7799 (Information Security Standard) in organisations. Now BS7799 is set to become an international standard, but even before that has happened it has been adopted by a number of countries as their national standard for information security.

Down under, our Australian and New Zealand friends have adopted it as Australian Standard AS/NZS 4444. Now the whole thing about standards is that they should be a quality product in their own right. After all, they do go through a pretty rigorous review process. Not so, down under it would seem. Our eagle eyed correspondent in Brisbane, Bob Ashton, a one time member of the CASG committee and frequent writer for this Journal, went and purchased AS/NZS 4444 for his job at the Queensland Audit Office. Bob's company forked out the required AUS83.00 (about GBP35.00) and found that many of the paragraphs were written in a style of English which is reminiscent of those instruction manuals translated from Japanese into English by someone whose mother tongue is neither.

As an example, I exactly quote, including punctuation and capitalisation, from the second paragraph of clause 10.1.1 which as you all know deals with security requirements analysis and specification. 'Security requiements and controls should reflect the applications should ensure that restrictions are business value of the information assets involved. implemented to minimize the risk of processing and the potential business damage, which might failures leading to a loss of integrity. Specific areas result from a failure or absence of security. The to consider include: framework for analysing security requirements and identifying controls to fulfil them is risk assessment and risk management'. Okay, I admit that I have selected the worst paragraph, but coupled with the many other spelling mistakes, this document must go down in history as the best example of a non-quality standard. I have checked with Bob three times to ensure that it is not a draft, but is really the final thing. Where is this leading to? Well, read the humour page to discover a more devastating result of a misprint.

Elsewhere you will find a short article by Vanessa Everett on software patenting which will almost certainly have implications for our organisations. The opening of a debate by Gillian Windall and David Chadwick on an individual's freedom to access information held on computer systems. Suggestions by Andrew Hawker on internet sites of interest to visit during those long insomniac nights and a round up of BCS news by Colin Thompson.

In case you are wondering how I am getting on with my Search for Extraterrestrial Intelligence at Home (SETI), my two computers have now analysed between them 45 blocks of data from the Arecebo radio observatory. The average time taken for a block of 350 kilobytes to be analysed is approximately 48 hours of CPU time on a Pentium 300 machine, but the elapsed time is much longer as the analysis is only done when the screen saver kicks in. Mind you, that is most of each night. If you want to join the fun, point your browser to http://setiathome.ssl.berkeley.edu

John Mitchell

Chairman's Corner

John Bevan

Merger news! Your committee has been discussing a possible merger with the BCS Information Security Specialist Group. Nothing is finalised. We plan to work things out over the next 12 months, with the aim of putting specific proposals to our AGMs in 2001. We consider that the two BCS SGs offer similar benefits to their members, and that the improved economy of scale of a merged group should offer additional benefits for lower operational costs and effort. The main activities of both SGs are members' meetings, many subjects of which are similar, although our late afternoon meeting format and the ISSG's two day residential conference are unique. It is vital that our members' audit perspective and the CASG Journal should continue and/or be enhanced. Instead of two committees and administrators there would be one, with adequate computer audit representation on the committee. Attendance at the meetings on popular topics should be larger. A large merged group should allow presently marginal activities (e.g. some meeting topics) to become feasible and the fixed cost of other activities (e.g. improving our use of the internet, or commenting on public issues) to be spread over more members. Over the next 12 months we have agreed: (1) to co-ordinate our members' meetings' topics, dates and publicity; (2) to allow members of both groups to attend all meetings at members rates; (3) for each SG's management committee to include one person from the other's committee, and; (4) to work out the details of merger over this period.

Given that we take certain obvious precautions, I can see real benefits being realised and few pitfalls. If you have any strong views on this approach to merger, please let me have them.

GUIDELINES FOR POTENTIAL AUTHORS

The *Journal* publishes various types of article.

Refereed articles are academic in nature and reflect the Group's links with the BCS, which is a learned institute governed by the rules of the Privy Council. Articles of this nature will be reviewed by our academic editor prior to publication and may undergo several iterations before publication. Lengthy dissertations may be serialised.

Technical articles on any IS audit, security, or control issue are welcome. Articles of this nature will be reviewed by the editor and will usually receive minimal suggestions for change prior to publication. News and comment articles, dealing with areas of topical interest, will generally be accepted as provided, with the proviso of being edited for brevity. Book and product reviews should be discussed with the appropriate member of the editorial panel prior to submission. All submissions should either be on double spaced, single-sided A4 paper, e-mail, or on PC format diskette in Microsoft Word, Ami-Pro, or ASCII format. Electronic submission is preferred.

Submissions should be accompanied by a short biography of the author(s) and a good quality monochrome photograph, or electronic image.

Submission Deadlines

Spring Edition	7th February
Summer Edition	7th May
Autumn Edition	7th August
Winter Edition	7th November

Software patenting - the way forward?

Vanessa Everett

On 19 April 1999, the UK Patent Office announced that it would be following the lead of the European Patent Office (EPO) in introducing a considerably more liberal policy towards the patenting of computer software. This decision by the EPO followed a ruling by its Technical Board of Appeal on two cases pursued by IBM. It meant that, for the first time in Europe, a computer program, separate and apart from any computer on which it might be run, could potentially be granted a patent. Four years previously in 1995, IBM had fought the landmark Beauregard case in the United States, which had established the same patents rights for stand-alone computer programs there.

The outcome of these cases constituted a considerable strengthening of the protection from unauthorised use available to software products from the patent system. Previously, a patent could only cover a program running on a computer as part of an overall process, even if the inventive elements of the process resided purely in the program, and the program was manufactured and sold separately to the computer. This had significant legal implications. It meant that a company could steal a program, which was part of a patented process and sell it. The patent infringers then became the end users who actually ran the program on their computers, whilst the company was guilty at most only of 'contributory infringement'.

These cases also comprised the latest development in the story of how the laws protecting intellectual property rights have been adapted in the last twenty years to cover the fast-growing software industry. During the 1980's, the focus was on adapting copyright law to cover software. However, copyright only protects the expression of an idea and not the idea itself, and does not protect against independent development. As a result, it came to be seen by some in the industry as inadequate protection for the investment needed to develop new software products. Some software developers and their lawyers began trying to acquire patents, which, although expensive and lengthy to obtain, are able to safeguard the idea behind a product, protect against independent development and grant monopolies for a number of years.

The initial response towards the idea of patents for software was hostile. In 1972, the United States Supreme Court unequivocally rejected the first case brought before it. By 1981, however, attitudes had changed, and in the Diamond v Diehr case, it ruled for the first time that software **could** be patentable, although only as part of an overall process. Increasingly liberal verdicts on software patenting followed throughout the 1980's, until the Beauregard verdict made any software patentable, provided that it met the normal patent criteria of being novel, non-obvious and industrially applicable.

Europe has followed a similar trend, culminating in the 1999 IBM cases which paralleled the Beauregard case. However, the situation in Europe is still significantly different in some regards to that in the United States. To be granted a European patent, software inventions must produce a novel 'technical contribution' to the field in which they are used. There is no consistent definition or interpretation of 'technical contribution', although many software patent applications are turned down on the basis that they do not produce one. Additionally, the European Patent Convention (EPC) lists various exclusions to patentability such as methods of doing business, presentation of information and methods for performing a mental act, and many software applications are turned down on the basis that they also fall into one of these categories

There is now considerable economic pressure for Europe to come into line fully with the United States on software patenting, to create a level playing field for European software developers in an increasingly global marketplace. Critics of software patenting urge caution, however. There have been considerable problems with the system for granting software patents in the United States, leading to commercial difficulties for businesses there. Overly-broad patents leading to unfair monopolies have been granted, as have patents for 'new' software inventions which actually already exist. Once a patent has been granted it can only be challenged through expensive and lengthy litigation, which may be impossible to pursue for some companies

Despite the possibility of similar difficulties, it seems inevitable that last year's EPO Board ruling will not mark the end of the liberalisation of approach towards software patenting in Europe. Europe is still considering exactly how to move forward. One suggestion has been a change to the EPC, to allow any invention in any technological field to be patentable, providing that it meets the normal patent requirements of being novel, non-obvious and industrially applicable. This would have the advantage of being much simpler to apply than the current system, and of bringing Europe into line not only with the United States but also with other competitors in Japan, Australia and New Zealand. Amending the EPC would not be an easy task, given that it is an inter-governmental convection including countries outside the European Union, and so not within direct control of the European Commission. Europe may be well advised to use the intervening time to learn from the American experience, and so to avoid some of the mistakes which have undoubtedly been made there in the extension of patent protection to the software industry.

Vanessa's article is based on her dissertation for a Masters degree in Computing and Information Systems at the University of Greenwich. Vanessa is now working as a computer security officer at the British Council and may be contacted at: Vanessa.Everett@britishcouncil.org

Freedom of Access to Information -
A Quality for Life

By Gillian Windall and David Chadwick

On the 12th April, at the University of Greenwich, Les Neal of Brunel University made a brief presentation of a paper produced for the BCS Ethics committee. The paper was intended to promote debate throughout the BCS about the freedom of access to information. Following the presentation, there was a seminar in which participants formed into groups and discussed several key questions raised by the paper. The seminar finished with the groups feeding back their thoughts for a general discussion of the issues.

The paper presented by Les discussed four types of "freedoms" that people may wish for with respect to access to information:

- the freedom for individuals to access information held about them,

- the freedom to access general information in the public sector,

- the freedom to access general information in the private sector,

- the freedom of access to global information via the internet.

The paper also noted four opposites of a general freedom of access:

- privacy for information held on individuals from access by others,

- confidentiality of information held by institutions (also commercial confidentiality),

- protection of intellectual property rights,

- the blocking of access to 'undesirable' material on the net.

Having made the above statements to open the debate, the paper continued with a review of current legislation and practice in the area (e.g. the Computer Misuse Act and Data Protection Act) and identified those persons who may be considered as stakeholders (e.g. companies, employees, the public, IT professionals etc). The paper concluded with a set of questions intended to focus debate amongst BCS members and other IT professionals about the Society's role in response to the issues of access to information. These questions were taken as the starting point for group discussion during the workshop. Some of the questions are given below together with an outline of the main points that emerged in response to them.

Question 1 - Has the Society any public duty to pronounce on issues concerning the proposed Freedom of Information Act? The consensus amongst participants in the seminar was that "yes" it has, and that in doing so it should perhaps adopt a more proactive style than its usual rather diffident approach. Participants agreed with the point made in the paper that it is particularly important that information about failures of computer systems (software or hardware) should not be suppressed, as doing so may prevent appropriate lessons from being learnt. The point was also made that the crucial role of IT in inhibiting or allowing access to information meant that IT professionals may often find themselves in the role of information guardians. As such, they were affected more than members of many other professions regarding where the line between freedom and restriction of access to information was to be drawn.

Question 2 - Should IT professionals partake in actions that knowingly affect the confidentiality of others' information? This was considered a complex issue involving many factors as such actions varied in the seriousness of their likely consequences e.g. from people receiving unwanted junk mail at the low end up to actions which may be life threatening or may compromise national security. Some actions were definitely illegal whereas others were merely morally dubious. It was discussed how the extent to which the IT professional could be an active participant may itself vary e.g. from actively stealing information down to agreeing to cut corners in testing software that prevents unauthorised access to mailing list information.

Members of the seminar thought that if the IT professional was asked by their employer or client to concur in what they (the IT professional) considered was an unethical activity then there were a variety of ways in which they could protest. These ranged from perhaps pointing out the problem to their manager or client, to carrying out the action under protest but perhaps insisting on written orders, and finally up to the point of whistle-blowing either with or without prior warning.

Overall it was felt that the individual professional needed to balance the various factors involved. For instance, matching the gravity of the likely breech of confidentiality with the severity of the individual protest.

Question 3 - Should IT professionals partake in actions that knowingly affect the legitimate freedom of access to others' information? This was seen as being a similar type of question to question two, involving a similar range of factors. The range of consequences of restricting access to the information could range from inconvenience (perhaps the information could still be found out but not so easily) through to the endangering of life (e.g. the covering up of information about the dangers of some food produce).

Question 4 - Should IT professionals attempt to gain access to and pass on restricted information in the public sector in what might be argued is a "good" cause?

and *Question 5 - Should IT professionals attempt to gain access to and pass on restricted information in the private sector in what might be argued is a "good" cause?*

These questions were taken together because the seminar participants saw no real distinction between public and private sector information in respect to the question. As with questions two and three there were clearly a number of factors to be taken into account in any particular case. The degree to which the IT professional would be going out of their way to gain access to the information could be significant. For instance, at one extreme there may be a deliberate and illegal hack into a system to find the information whereas at the other end of the scale information may be found during normal work activity. Another relevant factor was the degree of "goodness" of the cause. It was felt that most people would agree that reporting the activities of a paedophile ring to the police was a very good cause. On the other hand, reporting on the web the whereabouts of a forthcoming fox-hunt would be counted as a good cause by some but not by others. It was generally agreed that in some instances, such as the latter case, computer professionals would need to exercise

caution and be aware that their responsibilities for their actions would be down to their own beliefs and conscience.

Question 6 - To what extent should employers control access to information made by their employees? There was unanimous agreement that employers had a right to restrict their employees' access to information during work time using the employer's equipment (e.g. "surfing the web"). It was agreed that the key issue was that employers should make any such restrictions clear to their employees before attempting to enforce them. An enlightened employer would not be too restrictive and agreement about the boundaries would be reached by consultation with the staff.

As the seminar drew to a close, participants began to discuss the role of the BCS in supporting and guiding its members in the face of moral dilemmas (e.g. as posed by questions two to five) over and above the guidance provided by the existing codes of conduct and practice. Some of the suggestions given are outlined below.

- The possible provision of counselling and possibly even legal advice would be beneficial. Currently general advice is available on a rather *ad hoc* basis but perhaps this provision could be extended and formalised.

- Clearly most moral dilemmas are complex and multifaceted; they wouldn't be dilemmas otherwise. Members may benefit from materials or practical educational sessions that would help them identify the various factors involved and possible courses of actions available. Case studies could be particularly helpful for this purpose.

- Material that members could use to aid discussions with employers and clients may help strengthen their position when trying to resist pressure to act in a way that they feel

contravenes the Society's codes of conduct and practice. Again, case studies presented through formal texts and/or practical educational sessions may have a role here.

At the close of the seminar, it was generally agreed that the debate regarding freedom of access to information had been well and truly opened and all that remained was to keep the process going within the society. It was hoped that BCS members everywhere would continue to discuss the issues involved and report back their feelings to their local branches.

The afternoon ended with unanimous thanks to Les Neal for his presentation and also to Margaret Ross and Geoff Staples of Southampton Institute for their efforts in arranging and promoting the seminar on behalf of the BCS.

Les Neal is a lecturer in the Dept. of Information Systems and Computing at Brunel University. Les may be contacted on Leslie.Neal@brunel.ac.uk

Margaret Ross and Geoff Staples are members of the BCS Quality SIG and program committee members for the annual BCS SQM conferences. Margaret is BCS representative on the Engineering Senate. Both may be contacted on Margaret.Ross@solent.ac.uk

Gillian Windall and David Chadwick are members of the Information Integrity Research Centre in the School of Computing at the University of Greenwich. They are active researchers in computing ethics and may be contacted via http://www.gre.ac.uk/~cd02/iirc/

The Web Page
Product Tests and Reviews

Andrew Hawker

All kinds of programs and devices are available to plug the holes in your system's security. Unfortunately this is an area where the Computer Auditor can easily be put well and truly on the spot. It is all very well to insist that a virus checker or a firewall should be installed, but how are you going to respond when you are asked which product you recommend?

In theory, this is an area where the Web *ought* to be extremely helpful. The market place is one in which new products are constantly appearing, and vendors regularly upgrade features and versions. It is obviously essential for buyers to be able to look up the very latest information.

In practice, most vendors provide excellent coverage of their own products on their own individual Web sites. Their specifications are detailed, and regularly updated. However, reliable and independent reviews of products, and comparisons between them, are much harder to find. Many such reviews *are* available on the web, but it can take a long time to track down any which are actually relevant. Sites are described below at which you can be assured of finding *some* test reports and reviews. However, absolutely no guarantee is given that you will find the kind of review you are after, and even a successful search may take quite a long time.

One of the best known sources of comparative studies in print is Secure Computing magazine. This regularly features themed editions, offering a "consumer's guide" to competing products, together with ratings of their price, ease of use, performance, and so on. However, visitors to the magazine's web site at www.westcoast.com will find only a small selection of these reviews available on-line. Comprehensive lists of all the products which have been tested under the West Coast Labs' "Check Mark" scheme are available at www.check-mark.com, but with only minimal details of the tests themselves. The listings are grouped under relevant headings (Anti-Virus, Trojan, Firewall, UPS and VPN), and it is possible to check exactly which version of the product has been tested, and when. A useful starting point, but in most cases it will still be necessary to ensure that you have back copies of the magazine in old-fashioned hard copy on your shelves.

A similar product testing scheme is operated by ICSA Labs at www.icsa.net. Again, the web site gives only limited details of the individual product tests, and provides little more than a check on whether the product has been found to meet ICSA's standards. A good deal of information is provided on how the tests themselves are designed and implemented. For more general background, a browse through the archive of ICSA's magazine at www.infosecuritymag.com is recommended. For example, the January 2000 edition has a good article on the pros and cons of crypto accelerators.

Four other sites provide reviews and test reports on IT products of all kinds, the majority of these being associated with networking. These can be worth searching through for information on security products, particularly if you are interested in network security. The sites are:

● www.bcr.com, Business Communications Review. BCR carries occasional product tests and comparisons. For example a report on five VPN gateways can be found in the November 1999 edition.

● www.planetit.com/techcenters/ security, Planet IT. This is part of the CMP Techweb network. Techweb includes several other titles, including the now defunct LAN Times, which carried some useful product test reports up until its demise late in 1998. Another Techweb site worth visiting is Data Communications at www.data.com/testcenter. There is plenty of material to be found on all these sites, but they are not all that easy to search. For example, if you are interested in crypto accelerators you might like to read a review of four different products carried by Planet IT on 20th March of this year. However, the reviews are buried in an article entitled "E-Commerce Security Gets a Boost". Some firewall products have also been reviewed in reports dating from May 1999. The Data Communications site is organised rather differently, with Lab Test Center reports grouped together, and a further sub-heading for Security. Typically, a couple of security-related reports appear in the course of each year. The Techweb sites give a feeling of being continually under development, and on the Data Communications site in particular the hyperlinks do not always appear to work as they should.

● www.nss.co.uk, NSS Group. At last, a UK site! This at least provides some reassurance that the products mentioned will actually be available in the UK. The most recent report, on five PKI products, has an excellent introduction explaining how PKI systems work, and what an implementer should be looking for in a PKI. If you want to download this report you must be willing to register your personal details, and wait patiently while the 1.8 Mbytes of text (in Adobe format) arrives. Incidentally this company uses some of the smallest font sizes I have yet encountered on the Web, so make sure you give your screen a wipe first.

Two other sites are perhaps worth a mention. Infoworld, at www.infoworld.com, carries regular reports from its Test Center. However, these cover everything under the sun, and it can take a while to narrow down the search arguments to take you to the kind of products you are really interested in.

Finally, there are sites such as Bloor Research (www.it-research.net) which offer reports strictly on a subscription basis only. Only a small proportion of these are security-related. Since they are typically priced at 250 euros, they were well outside the zero-spend parameters of this particular survey!

Sites dealing with certification based on public standards, such as ITSEC, have not been included in this short survey, as it intended to look at these sites in a future column. In the next edition, the focus will be on sites run by the various professional bodies concerned with audit.

If you know of any useful sites that have been overlooked, or have any other observations on the use of Web sources in computer audit, your comments will be welcomed. Andrew can be contacted at: Department of Accounting & Finance, University of Birmingham, Birmingham B15 2TT. 0121 414 6675. A.Hawker@bham.ac.uk

BCS MATTERS!

Colin Thompson, BCS Deputy Chief Executive, reviews some of the current BCS news items. Further information on these or any other BCS related issues may be found on the BCS Web site ("http://www.bcs.org.uk/".)

Information is also available from Customer Services at The British Computer Society, 1 Sanford St, Swindon SN1 1HJ (e-mail to marketing@hq.bcs.org.uk)

Colin Thompson
BCS Deputy Chief Executive

Programme 2000Plus - Beyond the Points-Based System

In my last column for this newsletter I gave details of the new points-based system for determining the eligibility to apply for BCS professional membership. Those changes were introduced on 1st May and this time I want to look beyond that new system to the wider changes now in train, designed to create a New BCS.

The strapline to the Programme 2000Plus logo is *A Profession for the 21st Century*; the purpose of the changes now in discussion is to create the Professional body that is properly equipped to serve both members and customers and to meet the challenges that the 21st Century will bring. In common with a number of other professional bodies, the Society recognises that simply doing what we have done over the past 40 years, even with some improvements, will not be enough to guarantee success for the next 40. There is a very clear recognition that there is a need to do things differently; the New BCS has to be much more in touch and in tune with its members, providing services that meet the real needs of both members and customers and enabling members to engage with the Society more effectively.

Programme 2000Plus - phase 1

First a brief recap on the story so far. The changes outlined last time represent the completion of the first phase of Programme 2000Plus, designed to implement some of the main recommendations of the 1998 Pollard Report. The importance of these changes, as a radical modernisation of the entry arrangements for the Society, should not be underestimated. And the fact that they were approved by Council, with the support of all relevant Boards and Committees, 3 months ahead of schedule indicates a very clear willingness to adopt a radical approach. Apart from simplifying the requirements the new Regulations have:

- Redefined the definition of relevant experience to include all aspect of IS work, not just the technical and engineering aspects

- Reduced the experience requirement for AMBCS to 1 year for the best qualified applicants

- Reduced the experience requirement for those without academic qualifications from 15 years, to 7 years for AMBCS and 10 years for MBCS

- Introduced a presentation option as an alternative to technical dissertation for those without academic qualifications

- Eliminated all age requirements, other than those in BCS By-laws (By-law changes require Privy Council approval) - the age requirements are now 23 for AMBCS and 24 for MBCS.

- Created a system under which we can give credit for vocational and other qualifications, including ISEB and Microsoft certificates and diplomas

- Laid the foundations for the new Certified Affiliate status designed to encourage those who enter the IS field from school, rather than from university, to seek professional qualifications.

It is encouraging that these changes have created considerable, positive interest on the part of other engineering institutions and the Engineering Council itself. In the past, they might have been seen as undermining standards, now they are very clearly seen as leading the way and creating a model that others might use.

The Agenda for Change

With the successful completion of phase 1 of the programme, attention now turns to phase 2 and to the plans to create *A Profession for the 21st Century*. It is the intention to modernise and transform the BCS for the benefit of members, customers and other stakeholders, around an agenda that has three key elements:

1. Transforming BCS Marketing and Communications

2. Transition to a fully wired Society

3. Creating the right structure for the New BCS

Taken together these three elements represent the foundation of the New BCS.

The BCS marketing Strategy

A well focused, professional marketing and communications regime is essential if the Society is to be able to communicate effectively with its members and to get its message across to those outside the BCS. In September last year, following a major study, Council approved a new strategy based on 4 principles:

1. Mobilise all available resources - including members, staff, Branches, Specialist groups

2. Focus those resources on a clear Corporate vision and objectives

3. Support that focus with a sustained and well planned communications campaign, based on good market intelligence

4. Target key external contacts through a planned campaign managed by BCS Account managers.

Council also approved mission and vision statements for the Society together with a set of broad objectives for the next 5 years. The next step in the programme is to establish a clear understanding of the needs of members and potential members. A major survey is currently being undertaken, with the support of a specialists Metra Martech.

The Web - towards a wired Society

The BCS web site receives very positive comment from both members and customers. However, for the New BCS we have to go well beyond the provision of an information repository. If we are to engage fully with members, the BCS must become a fully wired Society with all its services available on line. Quite simply, the web has to be the way in which we do business and the basis upon which we build the relationship between the Society and its members and customers. Whatever the need, the web has to be the medium.

The strategy to achieve the necessary transition is presently in discussion within the Policy and Resources Committee. It will require a very substantial investment of resources and an equally significant cultural change but there is a very clear recognition that we have to move to a web-based Society if we are to meet the needs of members and others in the future. The pace of the project will depend upon the speed with which we can make the investment and manage the cultural aspects, but I would expect to see some significant progress during the current year.

The Structure of the Society

There is, of course, no single 'right' organisation, but structure is an important factor in enabling - or hindering - the effective delivery service and the achievement of objectives. For a member body such as BCS, organisational structure is particularly important in determining whether all members are properly represented and whether there is effective two-way communication.

Whatever other changes are eventually agreed, there is one additional structural element already determined. As a direct result of the Pollard recommendation that we should widen the scope of BCS membership, Council has decided that we should set up separate technical, management and education colleges or faculties.

That change alone would make it necessary to review the structure of the Society. But we also need to look at all the elements of the structure - Council, Boards, Committees, Branches and Specialist Groups, to ensure that we are properly set up to meet the needs of the New BCS and to exploit the opportunities offered by the Marketing and Web strategies mentioned

above. We need to ask whether the structure properly represents all elements of our membership constituency, whether it enables communication most effectively and whether it enables members to engage with the Society and to play a part in its activities. We also need to consider whether we are properly structured to get the right balance between debate and action.

All these questions, and others, are the subjects of an extensive consultation exercise at the present time. Interviews with Honorary Officers and other active members of the Society will form the basis of a report to be considered, alongside the Metra Martech report, by Policy and Resources Committee and Council later in the year. Assuming that this process results in significant change recommendations, consultation will move on to the wider membership in the first half of next year.

And Finally ....

These changes represent an ambitious programme that will necessitate opening up the BCS to engage with its members in an entirely new way. It will not be achieved quickly or easily but there is a very clear recognition of the need to modernise the Society and to create A Profession for the 21st Century.

From the Cashbox - Summer 2000

Mike Demetriou

There has been much Treasurer activity over the last few months. You may have noticed that membership renewals were processed much later than is usual, mainly due to the change of our Administrator. It's always difficult picking up the ropes and Janet Cardell-Williams was appointed quite late in the season, but she is coping really well. Also our season of technical briefings are all in the second half of the year and these generate quite a number of financial transactions.

As I write this article the financial year for the 1999/2000 season has just closed and I am awaiting the final Bank Statements in order to complete the annual accounts for submission to BCS. I have automated the accounting process via the use of Quicken 98 software to control the current account activity. Unfortunately the BCS annual

reporting requirements do not fully lend themselves to the package and some manual intervention will be necessary. However, Quicken does give good analysis of income and expenditure together with reconciliation checks for the annual accounts and quarterly VAT returns.

Indications are that it has been a successful year for CASG. Membership levels have improved slightly and the last two technical briefings dealing with Web and E-Commerce security issues were very successful in terms of delegate numbers and were generally well received. The group will have made a modest surplus during the year and is a positive improvement on the previous one. The full accounts will be published in the Autumn issue of this journal.

Medical Terms

On the basis that words in audit reports sometimes have more than one meaning, you may find the following useful - Ed.

Artery	-	the study of paintings
Bacteria	-	back door to cafeteria
Barium	-	what doctors do when patients die
Benign	-	what you be, after you be eight
Caesarean section	-	a neighbourhood in Rome
Cat scan	-	searching for kitty
Cauterize	-	made eye contact with her
Colic	-	a sheep dog
Coma	-	a punctuation mark
D & C	-	where Washington is
Dilate	-	to live long
Enema	-	not a friend
Fester	-	quicker than someone else
Fibula	-	a small lie
Genital	-	non Jewish person
GI series	-	world series of military baseball
Hangnail	-	what you hang your coat on
Impotent	-	distinguished, well-known
Labour pain	-	getting hurt at work
Medical staff	-	a doctor's cane
Morbid	-	a higher offer
Nitrates	-	cheaper than day rates
Node	-	I knew it
Outpatient	-	a person who has fainted
Pap smear	-	a fatherhood test
Pelvis	-	second cousin to Elvis
Post operative	-	a letter carrier
Recovery room	-	place to do upholstery
Rectum	-	darn near killed him
Secretion	-	hiding something
Seizure	-	a Roman emperor
Tablet	-	a small table
Terminal illness	-	getting sick at the airport
Tumour	-	one plus one more
Urine	-	opposite of you're out
Varicose	-	nearby / close by

Getting the Wording Correct

We all know the problems of using the correct words in our audit reports. It appears that this is an age old problem .... Ed.

A new monk arrives at the monastery. He is assigned to help the other monks in copying the old texts by hand. He notices, however, that they are copying copies, not the original books. So, the new monk goes to the head monk to ask him about this. He points out that if there were an error in the first copy, that error would be continued in all of the other copies.

The Head Monk says "We have been copying from the copies for centuries but you make a good point my son." So he goes down into the cellar with one of the copies to check it against the original. Hours later, nobody has seen him. So, one of the monks goes downstairs to look for him.

He hears a sobbing coming from the back of the cellar, and finds the old monk leaning over one of the original books crying.

He asks the monk what's wrong and in a choked voice came the reply . . . "The word is 'celebrate' . . ."

Caption Competition

The best caption to the cartoon below, received by 24th July 2000, will receive a gift voucher.

Suggestions to the Editor at the email address on page 3.

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British Computer Society

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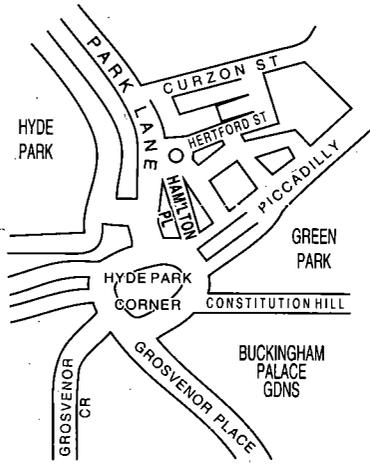| INDIVIDUAL NAME: (Title/Initials/Surname) |
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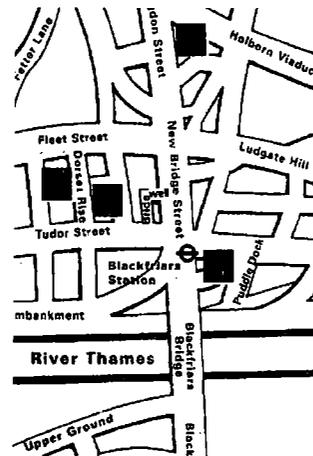

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ISEB Foundation Certificate in Software Testing

▶ *12–14 September, London*

BACKGROUND & OBJECTIVES

The Information Systems Examination Board (ISEB) is developing a syllabus for three levels of professionally recognised qualifications in Software Testing. The Foundation Certificate is the first level and will be awarded to those who pass a one-hour multiple choice examination, set, moderated and marked by the ISEB. This course prepares delegates for the foundation certificate examination that can be taken immediately following the course.

WHO SHOULD ATTEND

Anyone who would like to gain a professional qualification in software testing from the Information Systems Examination Board (ISEB). The ISEB administers and issues certificates in a variety of IT subjects including Project Management, SSADM and Data Protection. The Foundation Certificate in Software Testing is a new professional qualification from the ISEB and this course covers everything you need to know to pass the examination leading to certification.

This course is presented on behalf of UNICOM by Imago^{QA} who are ISEB accredited trainers

Course Presenter

Steve Allott, *Imago^{QA}*
Steve's 22 year career working in the IT industry includes development and testing activities at major organisations such as ITT, First National Bank of Chicago and Lloyds Bank. He is a popular speaker at International conferences and is the programme chair of EuroSTAR2000.

He is an inaugural member of ISEB which has developed a certification programme in software testing.

PROGRAMME

You Will Learn

- Fundamental testing principles including details of the testing process –planning, specification, execution, recording and checking for completion

- How to apply testing throughout the project development lifecycle so that costly bugs are found earlier

- The difference between static & dynamic testing techniques and how to use them successfully

- Why so many automated test tools end up as shelf-ware and how to avoid this particular pitfall

- How to manage your testing process and maintain organisational structures for testing that add value to your organisation

- Everything you need to know to pass the foundation level examination set by the ISEB

Programme Outline

- Testing terminology
- Why is testing necessary?
- Fundamental test process
- Organisational aspects of testing
- Black Box & White Box test techniques

- Economics of testing
- The V-Model for testing
- Test Planning
- Phases of testing (Unit, Integration, System, Acceptance)
- Test tool selection and implementation
- When to use Reviews & Inspections
- Standards for testing (including BS7925)
- **One hour exam leading to certification**

For further information on programmes, other events and speaker's C.V.s please visit our website: www.unicom.co.uk/dev-test2000

1

e-BUSINESS TESTING

5-days of up-to-date training courses

BACKGROUND & OBJECTIVES

If we believe the computer press, the revolution is here; the whole world is getting connected; many of the small start-ups of today will become the market leaders of tomorrow; the whole world will benefit from e-anyWordULike. The web offers a fabulous opportunity for entrepreneurs and venture capitalists to stake a claim in the new territory - e-Business. Images of the Wild West, wagons rolling, gold digging and ferocious competition over territory give the right impression of a gold rush. Pressure to deliver quickly, using new technology and inexperienced staff, into an untested marketplace and facing uncertain risks is overwhelming. Where does all this leave the tester? In fast-moving

environments, if the tester carps about lack of requirements, software stability or integration plans they will probably be trampled to death by the stampeding project team. In a recent e-Business project, we identified 82 product risks of concern. Fewer than 10 had anything to do with functionality. In all e-Business projects, the issues of Non-Functional problems such as usability, browser configuration, performance, reliability, security dominate people's concerns. We used to think of software product risks in one dimension (functionality) and concentrate on that. The number and variety of the risks of e-Business projects forces us to take a new approach. This is the e-Business

Testing challenge: to assess e-Business risks, then plan, implement and execute tests to address them in new technical environments under impossible deadlines.

These training courses provide a comprehensive set of methods, techniques, skills and Web resources to overcome the e-Business testing challenge. Based on our extensive consulting, management and outsourced testing experience together with the best of the ideas and trends emerging in Europe and the USA, this training resource is the most comprehensive available. The course is focused on practical solutions and makes extensive use of case-studies and real-world experiences.

THE 5-DAY E-BUSINESS

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software testing services

DAY	MONDAY 11 SEPT — DAY 1	TUESDAY 12 SEPT — DAY 2
Title	**Risk-Based e-Business Testing**	**e-Business Test Management**
AM	• Internet, e-Commerce and e-Business Overview • 'Web Time' • Web Risks • The e-Business testing challenge • Defining the Test Process	• Establishing feasible test objectives • Legacy systems and infrastructure • Acceptance criteria • Scheduling, resourcing, roles and responsibilities • Tools for test management • Test environments • Documentation, monitoring, control and reporting.
PM	• Introduction to risk • The risk management process • Role of testing in product risk management • How much testing is enough? • Risk, test techniques and the test process • Test stage definition.	• Test execution, recording, incident management • Re-testing and regression testing • Milestones, progress monitoring/reporting • When to stop testing • Managing test environments • Managing the 'go live' decision • Acceptance and test reports.

Each day bookable as a separate module. See 'Who Should Attend' above

TRAINING STREAM

London, 11–15 September 2000

WHO SHOULD ATTEND

The training courses are modular to make the overall e-Business testing stream as flexible as possible. To accommodate the variety of attendee backgrounds, we suggest that the roles below will gain maximum value by attending selected days as follows:

- IT and User/e-Business managers: day 1
- Project managers: days 1 and 5
- Test managers: days 1, 2 and 5
- Lead software testers: all days 1-5
- Software testers: days 2, 3 and 4

Benefits of Attending

The training courses cover all the issues of concern to managers and test practitioners. Course modules provide up to the minute coverage of the emerging disciplines of risk-based testing, non-functional testing and testing under pressure. Managers will acquire methods and tools to assess risks, prepare test strategies and manage the test process. Test practitioners acquire the knowledge of the new test techniques and tools needed to address the risks of e-Business.

TUTORIAL PRESENTERS

Paul Gerrard, *Système Evolutif* and David Hayman, *Testing Solutions Ltd.*

Paul is the Business Development Manager and principal consultant for Système Evolutif, a prominent Testing Services Company. He has conducted assignments in all aspects of Software Testing and Quality Assurance. Previously, he has worked as a developer, designer, project manager and consultant for small and large developments using legacy and Web tools. Paul has degrees from the Universities of Oxford and London, is Special Projects Secretary for the BCS SIG in Software Testing and former chair of the Certification Board for the ISEB Tester Qualification whose aim is to create a training and qualification scheme for professional testers. He is a regular speaker at seminars and conferences in the UK, continental Europe and the USA.

David is the principal consultant at Testing Solutions Ltd., a software testing services and training company. He has been in IT for 16 years with the last 12 years in software testing. All of that time was spent as a practitioner, the majority in senior roles defining and implementing test strategies and managing teams of IT and business testers. He has considerable technical and practical experience testing and implementing applications across a variety of infrastructure platforms, for both public and private sector clients. David now uses that experience in his role with Testing Solutions and brings his long and varied practical experience to his training and presentation work.

TESTING PROGRAMME

WEDNESDAY 13 SEPT `DAY 3`	**THURSDAY 14 SEPT** `DAY 4`	**FRIDAY 15 SEPT** `DAY 5`
e-Business Test Tools and Techniques [1]	**e-Business Test Tools and Techniques** [2]	**Making e-Business Testing Happen**
• Overview of 19 Web test techniques	• Performance, load and stress testing	• Test planning policy
• Specialist skills and the new techniques	• Performance objectives	• High level test planning
• Static Testing: HTML syntax, browser compatibility	• Tools, automation and trade-offs	• Traditional techniques and the lifecycle
• Test Browsing: link checking, object loading, transaction verification	• Test preparation and execution	• Identifying risks
• Functional Testing: from component to system testing and internationalisation	• Testing and tuning	• Root cause analysis
• Usability Testing approaches.	• Reliability testing	• Designing the test process
	• Availability testing.	• Using risk to prioritise the testing.
• Testing end-to-end functionality and infrastructure	• Security risks, assessment and analysis	• Post-deployment monitoring
• Testing internal/ external interfaces	• Black and white box security testing	• Web time, extreme programming and testing
• Test environment, stubs and drivers	• Penetration testing and network audit	• When is the product 'Good Enough'?
• In-house or outsourced?	• Backup and recovery testing	• Tool selection and implementation
• Testing changes	• Tools for e-Business Testing: freeware, shareware, proprietary or home brew?	• Quantifying the testing
• Configuration and release management		• Improving your testing.
• Installation Testing		
• Configuration Testing		

TESTING TRAINING RESOURCE AVAILABLE

COURSE *C* # Large Scale Integration Testing

▶ *11 September 2000, London*

BACKGROUND & OBJECTIVES

'Plug and play' is a term that has long been used when hardware components are added to individual desktops or servers. The localised impact of the add-on is limited: if doesn't work, remove it; if it does, then great.

With the worldwide revolution of integrated platforms and applications entire systems are now created with an expectation that they will themselves be 'plug and play'. This is a little simplistic and the impact to legacy systems at this scale can be devastating. The ISEB Foundation course advocates a separate test phase 'Integration Testing in the Large' which focuses on testing the interfaces of one system to others. This course has been developed to ensure that the objectives and scope of that stage are suitably and fully explored.

It is often assumed [testers' equivalent of a four-letter word] that if the functionality works then the infrastructure will. We use the recognised non-functional techniques during the system test phase to establish performance, volume usability, etc. However, before we can complete the testing of the operability of the system we must also prove the environment and the end-to end system and business processes.

The business processes that drive changes, along with the requirements that support them, are often illogical or incomplete from the IT perspective. Often the requirements are stated at 'black box' level. In order for the IT solution to work, the 'white box' elements have to be added by the system designers. It is this fully integrated system that is the focus of LSI testing. The objective is to produce a feasible and reliable platform that meets the user availability requirements and the service level agreement.

The course is focused on providing practical and pragmatic solutions to these and other issues based on a combination of real world experiences and the theoretical view.

PROGRAMME

Introduction
- Overview of the topics for the day
- Ensure a common understanding of the objectives of the course

Is the testing feasible?
- An overview of the FIT measurement process
- The ability to test
- Measuring the effort
- The roles and responsibilities of the resource

The ISEB view
- Where does LSI fit within the test cycle
- The objectives of the test phase
- Acceptance and Exit Criteria
- Top Down, Bottom Up, Big Bang
- Stubs and Drivers

Automatic and manual interfaces
- What do we need to know
- What are we looking for
- Is there a difference?

The Operational Schedule
- Operational acceptance testing [OAT]
- Testing the on-line processing
- Testing the off-line processing
- Testing Business vs. Operational processes
- Meeting the SLA

Testing the documented processes
- Responsibilities
- What are looking for
- Static vs. dynamic testing

A typical schedule
- The stages and check points
- Where does the testing happen
- Acceptance and implementation

Tutorial Presenter
David Hayman, Testing Solutions Ltd
David is the principal consultant at Testing Solutions Ltd., a software testing services and training company. He has been in IT for 16 years with the last 12 years in software testing. All of that time was spent as a practitioner, the majority in senior roles defining and implementing test strategies and managing teams of IT and business testers. He has considerable technical and practical experience testing and implementing applications across a variety of infrastructure platforms, for both public and private sector clients. David now uses that experience in his role with Testing Solutions and brings his long and varied practical experience to his training and presentation work. He is an accredited ISEB Foundation Certificate trainer in association with both Systeme Evolutif and IE Testing Consultancy. He is secretary of the SIGIST sponsored working party defining a BSI standard on non-functional testing techniques.

Who Should Attend
The course provides a wide-ranging view of the large-scale integration test phase and as such will allow the following to gain the maximum benefit:
- Test Managers
- Test Co-ordinators
- Project Managers
- IT Operational staff
- IT Technical Support staff
- Software Testers
- Operational Acceptance Testers

Benefits of attending:
This course covers all aspects required by those who will be involved in this test phase and provides an insight into the issues they are likely to face.

Managers will be able to gauge the effort, impact and benefits of executing the tests. Testers at all levels will be aware of the detailed scheduling and test cases required to maximise the coverage whilst retaining a sense of perspective and addressing the likely operational risks.

WORKSHOP

How to Build and Lead an Effective Test Team

▶ *London, 14 September 2000*

INTRODUCTION

This workshop looks at how we can build (and retain) successful test teams within our organisation. The day focuses on a people-oriented approach to software testing. Creating a test team is one thing, keeping and maintaining an effective and efficient team is quite a different matter.

BENEFITS OF ATTENDING

The workshop covers various 'people issues' in software test management and will be applicable to those currently in a leadership role or looking to develop this role. This workshop will give useful and practical advice on how to effectively build and manage the test team. Opportunity will be given to discuss relevant issues we face in the people side of test management.

WHO SHOULD ATTEND

IT managers, Project managers, Test managers, Software engineers, Software testers, Team leaders, Quality managers.

Presenter:

Lloyd Roden, *Grove Consultants*

Lloyd has been a Test Manager for 11 years. During this time he has tried to adopt 'best practice' when it comes to software test management. He has managed an Independent Test Team responsible for testing the system prior to it being released to the customer; and a Product Assurance Team within the development process. He has endeavoured to achieve the right balance between task issues and people issues relating to software test management. Lloyd has recently joined Grove Consultants, who provide advice, training and inspiration in software testing, testing tools and Inspections.

PROGRAMME

Characteristics and Qualities of a good tester
Can anyone test? What makes a good tester? This session uncovers some of the characteristics and qualities of both the tester and test manager and what we should be looking for.

Recruiting the right staff
Recruiting the right person to join the test team can be quite daunting. What should we look for on a CV? What should we do when we have no choice in the recruitment process? This session will look at group dynamics and how adding one person can disrupt the group dynamics. We shall also introduce the 'tester's aptitude test' and how this might help in the recruitment process.

Introducing a career path for the tester
One of Maslow's motivational needs which has been identified is 'self realisation' - an opportunity to improve in the job we find ourselves in. Therefore a career path for testers is essential if we are going to meet this need. Unfortunately many organisations do not have a clearly defined career path for the testers. This session will look at alternative career models for the testers.

Four types of tester
Managing people is often more difficult than managing tasks. Why? Because people are complex and different. This session explores 4 types of tester that exist, how to recognise the various types and how this can help us manage the team more effectively. Assigning correct work to the correct type is essential for greater productivity.

Motivating and equipping our testers
Motivated testers will be more productive. What are the key signs of our testers being motivated and more importantly - how do we recognise when they are de-motivated? De-motivated teams are often unenthusiastic, unproductive and dissatisfied with their work. This session provides 7 key factors in motivating our test team.

Explaining testing to managers and users
Testing has never been of great interest to IT managers. As a test manager or team leader, we can often feel as though we are alone when it comes to believing testing is important. How do we promote testing within the organisation? How can we convince our users and managers to

spend more on testing resources?

Working with Development
There can sometimes be barriers between testers and developers. How can we diffuse the us-versus-them situation? The key to success is to build a regime where both success and failure are shared equally between developers and testers.

Team roles and skills to consider for a test team
It is important to recognise the different skills required to form an effective test team. This session will uncover 10 roles and their associated skill set as well as looking at the 'Belbin Team Roles' and how they might be applied to the testing team.

Key management skills applied to leading a test team
During this session we shall look at 5 management skills as applied to the testing process:
● Influencing and Negotiation skills
● Delegation
● Giving and receiving criticism
● Handling politics
● Implementing change

WORKSHOP

w Software Process Improvement

▶ *13 September, London*

BACKGROUND & OBJECTIVES

A special workshop on improving the way your organisation develops and tests mission critical software. In the frantic rush to develop, build, test and then re-work (after failure) e-business and Internet enabled software applications, many development managers and project managers have possibly forgotten about their processes and procedures. This one-day workshop will explain the concepts of software process improvement and show how managers can improve software quality by improving both the development and the testing process.

What is process improvement?

A process is a series of events or phases that takes place over time and usually has an identifiable purpose or result. Some processes include multiple conditions and results. Examples might include the processing of sales orders, engineering systems in a manufacturing plant, processing of expense claims, developing a computer application, testing computer software.

A procedure is a set of steps that a person performs in order to obtain a specified outcome. Examples might include how to change the toner in the printer, how to fill out a tax form, how to design a test case, how to logon to the mail system.

Note that a process, like a procedure, usually involves sequential events or time intervals. However, a procedure describes steps which a person is directed to perform, while a process describes events or phases about which the reader needs to be aware. Process descriptions usually lack the level of specificity required for the reader to perform the tasks described.

In order that work products can be produced to a consistent standard of quality over and over again, many companies are now developing well documented processes and procedures for carrying out normal business tasks.

In the IT industry many companies have ad-hoc and ill defined processes leading to poor quality systems and software. Testing is no exception. The test process itself should be an intrinsic part of the software development process. Software development is part of a larger group of activities that influence the overall development of a system. There are many models and tools that attempt to improve the quality of the total development process (e.g. CMM, SPICE, Bootstrap, ISO 9002 and others).

Benefits of Process Improvement?

Companies who might benefit from test process improvement include those where:
- Testing is performed too late in the project i.e. just before it goes into production,
- unskilled staff are used to test the product
- test cases developed are really only suitable for one time use
- not enough people are available
- tools have become shelfware
- many faults are found by users or customers

In addition, software process improvement will be of benefit to companies who are involved in the whole of the software development lifecycle, and who wish their processes and procedures to be recognised as having reached a particular standard (e.g. CMM level 2 - repeatable processes).

Before you jump on the E-bandwagon . . .

. . . why not try Software Process Improvement?

Workshop Presenters

Imago^QA Limited is a dedicated quality and software testing consultancy, completely independent of any software tool or methodology. As consultancy partner to some of the world's leading companies, their expertise is applied throughout the systems development life-cycle and for the implementation and management of process improvement programmes.

About this workshop

This one-day workshop will introduce the basic concepts of software process improvement and will give an overview of some of the test process improvement models including:
- Testability Maturity Model by David Gelperin, 1996
- Test Improvement Model (TIM) by Ericson, Subotic and Ursing, 1996
- Testing Maturity Model (TMM) by the Illinois Institute of Technology, 1996
- Test Process Improvement (TPI) by Koomen and Pol, 1999
- Test Organisation Maturity (TOM) by Paul Gerrard, 1999

The workshop will also explore the implications for software developers and testers of two widely acclaimed (and often much criticised) process improvement models:
- Capability maturity model (CMM) by the SEI
- Software process improvement capability determination (SPICE) - ISO/IEC TR 15504

Real world examples and case studies from practitioners using these improvement models will be presented and there will be an open forum at the end of the workshop for you to discuss your particular process improvement questions.

Don't miss this opportunity to take a giant leap forward in the way you develop and test your mission critical software; then be our guest, jump on the e-bandwagon.

Introduction to Configuration Management

10% DISCOUNT FOR MEMBERS OF THE BCS CM SIG

▶ *12–13 September, London*

BACKGROUND & OBJECTIVES

Configuration Management (CM) is a composite discipline by which all key components of a project or system are systematically controlled. The effective application of Configuration Management enables organisations to deliver projects within budget and schedule and to control and maintain their live systems. Configuration Management has been contributing to development and maintenance activities within aerospace and military industries for decades. However, it is relatively new to Information Technology and Computer Sciences. Configuration Management concepts are straightforward and often only appear complicated because of jargon and computer terminology. Our objective is to introduce delegates to the subject in such a way that they can understand the scope and importance of Configuration Management.

This two-day seminar provides an introduction to the Configuration Management of software, hardware and documentation using industry standards and methodologies. Delegates will gain a good understanding of what is expected from Configuration Management disciplines and the role they play. This will be supplemented with relevant examples and exercises to enable delegates to understand how Configuration Management can be applied to their own organisation.

Presenters:
Shirley Lacy, *ChangeIT*
Ed McMahon, *Ed McMahon Associates*

Shirley Lacy has extensive consultancy, implementation and training experience of Configuration Management across the systems lifecycle. She is author of the new ITIL Configuration Management module and control sections of the BSI DISC IT Service Management Code of Practice.

Ed McMahon has worked upon, managed and directed a range of Configuration and Testing projects in the UK, Europe and worldwide. The scope of these projects has ranged from tactical implementations of tools to extensive and synthesised strategic programmes to fully implemented Testing and Configuration process improvements across entire organisations.

Ed and Shirley are Chair and Vice-Chair of the BCS Configuration Management Specialist Group.

Who Should Attend?
- Project Managers
- Departmental Managers
- IT Directors
- CM Managers
- Web Masters
- Developers
- Consultants
- Tool Vendors

PROGRAMME

Introduction
- Introduce lifecycle methodologies and standards
- The importance of a standard approach

Overview
- Objectives
- Controlling IT assets and configurations
- Identifying, recording and managing changes
- Procedures to make control easier

Definitions
- What it all means - simply and quickly

CM Planning
- The contents of a Configuration Management Plan
- Approach to CM planning for an organisation
- Planning for success
- Roles and responsibilities
- How to obtain traceability and auditability

Benefits and Metrics
- Why they are important
- What metrics to collect and how
- Cultural change and subjective measures

Configuration Identification
- Importance of getting it right
- Ownership and interfaces
- Resource and control implications of poor identification
- Software, hardware, documentation and interfaces
- Examples for projects and live systems

Control Procedures
- Configuration Control including build, baselines
- Change management and impact analysis
- Problem/Incident Management
- Status Accounting and reporting
- Configuration Audits

Examples and Techniques
- Project Configuration Management
- Desktop control
- Client server applications

- Distributed systems - hardware and software

Release Management
- Scope and objectives
- Release lifecycle and controls
- Applying control during a major release

Getting Started
- Learn what an effective CM implementation involves
- Establishing a CM team: Implementation and Support
- Gathering and maintaining data
- Learn about common problems and how to avoid them

Configuration Management Tools
- Key factors to consider to be effective
- Choosing appropriate software tools
- Software Configuration Management

Next Steps with Configuration Management
- How expert do you need to be?
- Understand how to develop and learn further
- Further reading

COURSE C

Component Based Development

▶ *11 September 2000, London*

BACKGROUND & OBJECTIVES

Component-based development (CBD) is increasingly emerging as the technique of choice for developing the production systems of the future. A number of competing component standards have appeared, fuelling the excitement about CBD but also raising concerns of incompatibility. This presentation surveys the state of the art of CBD, describing the promises of the approach while describing current pitfalls and presenting decision-makers and developers with practical advice for success in a component-based world.

THE PRESENTER

Bertrand Meyer has played a major role in developing modern software technology and bringing it to software engineers working in production environments.

He is the designer of the Eiffel object oriented method and language. Prior to founding his company ISE he was head of software engineering in a large European company, and on the faculty of the University of California, Santa Barbara. He also holds a position of adjunct Professor at Monash University (Melbourne, Australia), where he directs research on Design by Contract, Trusted Components and Distributed Systems. Dr. Meyer consults for Fortune 500 companies, on architectural reviews, design and deployment of software quality plans, and software strategies. He has published nine books on software engineering, object technology and programming languages, and edited or co-edited several others.

PROGRAMME

Part 1: The rise of components: an executive overview

- The economics of reuse. Why did traditional techniques fail at achieving reuse?
- What's new with CBD?
- Components in the enterprise. Component producers, component consumers.
- A component policy: how to pitch components; pitfalls; case studies.
- Components and legacy systems.
- Market assessment: who are the major players?

Part 2: Component technologies

- Components: a definition. Binary vs. source. Component classifications.
- Object technology. Are components just "glorified objects"?

- A discussion of Component-Based Development vs. object-oriented development.
- Component standards: Microsoft (COM/COM+ /DCOM/DNA); OMG (CORBA, OMA, object request brokers, meta-object standards); Sun (Java, Enterprise Java Beans, event model, Jini). Pros and cons; incompatibilities and interoperability.
- Component technology issues: Information hiding. Reflection. Assembly and wiring techniques. Visual assembly. Components and patterns. Composition vs. inheritance.
- Ensuring component quality. Design by Contract. Formal specifications.
- Component testing techniques. Validation services. The notion of "Trusted Component".

Part 3: Component development principles

- A review of techniques for building quality components. Encapsulation techniques. Command-query separation. Option-operand separation. Component metrics. Naming issues.

Part 4: Enterprise strategy and technology forecast

- Management and technical advice for making CBD succeed in your corporate context. The economics of components. Making CBD a money-making proposition.
- The future: new evolutions. Microsoft initiatives. Languages and tools.

For further information on programme, other events and speaker's C.V.s please visit our website: www.unicom.co.uk/dev-test2000

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COURSE C: Design by Contract & The Component Revolution

▶ 12 September 2000, London

PRESENTED BY
Bertrand Meyer, ISE

BACKGROUND & OBJECTIVES

Design by Contract tackles head-on the issue of software reliability, by taking a holistic approach to the construction of systems so that they will work correctly the first time around. Based on a simple yet powerful metaphor — software systems as collections of components that interact through contracts, similar to those between people or companies — it has a profound effect on almost every aspect of software development, from analysis and design to implementation, documentation, debugging, quality assurance, maintenance, and project management.

In one dense, information-packed day, Bertrand Meyer, one of the pioneers of modern software engineering and the creator of Design by Contract, will present the full power of the method. You will understand why major companies the world over are gearing up to be ready for this revolutionary approach.

Go beyond buzzwords and simplistic views. Learn how to take the best advantage of Design by Contract for your own team in your own environment.

PROGRAMME

PART 1: ISSUES
- Software reliability: how important is it? Can we get away with Good Enough Software? How does the industry cope with bugs and other reliability problems?
- Components of reliability: correctness, robustness; the role and limits of quality assurance.
- Role and limits of formal methods.
- Reliability techniques: typing, O-O structure, garbage collection, others. Management-oriented approaches: ISO 9001, Capability Maturity Model (SEI).
- Reliability and the software process: what is the role of each phase?
- Reliability and the component revolution.

PART 2: PRINCIPLES
- Theoretical basis: assertions and formal semantics.
- Notion of contract: human contracts, software contracts.
- How far does the metaphor extend? What is special about software contracts?
- Introducing contracts into software: preconditions, postconditions, class invariants and others.
- How does this fit in an object-oriented software architecture?
- What's special about objects and contracts?

PART 3: APPLICATIONS
- Contracts and documentation: how to produce good software documentation (and live to tell the tale).
- Contracts and analysis: real developers do use bubbles!
- Contracts and debugging: rehabilitating the most shameful part of the business.
- Contracts and testing: a systematic approach.
- Contracts and quality assurance: a unifying concept.
- Contracts and components: making reuse succeed.
- Contracts and abnormal case: a sound basis for exception handling.

PART 4: TOOLS
- Programming languages and contracts: Ada, C++, Eiffel, Sather.
- Java and C++ extensions for contracts: how much can be done?
- Contracts and UML: the Object Constraint Language.
- Contracts and component technologies: using Design by Contract to take the best advantage of Microsoft's COM and DCOM and the OMG's CORBA standard.
- Contracts and standards: ISO 9001, CMM.
- Development environments: their support for contracts.
- A window on research: beyond current approaches.

KEY QUESTIONS

Find out the answers to the most pressing issues in this radically new approach to software construction:

- What's Design by Contract beyond the buzzword?
- How much of Design by Contract can be applied in Java and C++?
- How much can you do in classical languages such as C?
- What gains can you expect in terms of quality and productivity?
- How does Design by Contract fit with quality-enhancing standards such as ISO 9001 and the CMM?
- How can you ascertain the quality of software components?
- How can developers produce useful documentation without huge extra work?
- How does Design by Contract affect the software lifecycle and project management?
- What tools are available today to support Design by Contract?
- How can contracts be combined with component technologies such as COM/DCOM and CORBA?

COURSE MATERIAL

The material distributed to participants includes more than 150 slides and supporting articles.

CONTENTS

SCHEDULE

SOFTWARE & E-BUSINESS TESTING AND DEVELOPMENT
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Risk Based e-Business Testing	e-Business Test Management	e-Business Test Tools and Techniques		Making e-Business Testing Happen
	Introduction to CM			
Component-Based Development	Design by Contract	Software Process Improvement	How to Build and Lead an Effective Test Team	

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New Economy Leadership: How to be a catalyst for strategic implementation Executive Briefing: *27 June 2000*
Morel Fourman, CEO Showbusiness.COM

Models of Customer Management
Management Workshop: *10 July 2000*
Merlin Stone, Senior Manager, Mummert + Partner UK Ltd.

Strategies for Knowledge Management and its Impact on the Corporate Culture
Intensive Masterclass: *11-12 July, 2000*
Dave Snowden, Director, Institute for Knowledge Management, for Europe, Middle East and Africa, IBM Global Services.

Understanding the Commercial Technological and Legal Dimensions of e-Business and How to Develop the Winning Strategy *13 July 2000*
e-Business Strategies (morning)
Dr Elizabeth Daniel, Cranfield University
Legal Issues of E-Commerce: (afternoon)
Dai Davis, Nabarro Nathanson

Business Models for e-Business *14 July 2000*
Philippe Leliaert, Partner, Areopa, Belgium