

# Gerald Marsh Access Summary

## **00:00:00 Introduction**

Born in 1957 in Abercwmboi, Wales. Located in the Aberdare mining valley.

## **00:00:50 Education: part one**

Went to grammar school which he did not enjoy. Not very academic and not good at woodwork or metalwork.

## **00:01:17 Parental background**

Mother was a factory worker. Father was a miner. Says this was typical for someone of his age and location. Estimates around 80% of people were the same. Most people did not go to university.

## **00:01:39 Education: part two**

Received a few O-Levels but messed up his A-Levels. At the time there were openings for people with O-Levels to be mine managers but promised his father he would not go into the mines as when he was younger his father had taken him and his brother for a visit, and he described it as horrific. Enjoyed science at school. Teaching style was just reading out of a book. Gerald has suspected himself to be neurodiverse, so this type of teaching was not suitable for him.

## **00:03:23 Working as a student radiographer**

Recalls he accidentally ended up working as a student radiographer. Rode his motorbike to the other side of the valley at Merthyr General Hospital and did not tell his mother he was having the interview. Was asked how many O-Levels he had then was given a tour. Liked the machinery and was immediately hired. Job was in East Glamorgan nurse's home. Interview was on a Thursday, and he started the following Monday. Worked and lived in the nurse's home for three and a half years. Did not want to work for the health service as he believed they were not well rewarded.

## **00:04:46 Control Data Institute aptitude test**

After working as a student radiographer, Gerald was considering other work options. An apprentice electrician at the nurse's home told Gerald about an aptitude test happening in the Angel Hotel, Cardiff. Intensive tests run by the Control Data Institute (CDI). They both took the tests, the electrician failed but Gerard did very well and passed. Attended two interviews and a TOPS course, he cannot remember what the abbreviation stood for, but it was a government initiative and Gerald is very grateful for it.

## **00:05:40 Taking a computer operating course**

Did a very intensive course in computer operating with the CDI in Bristol. Covered IBM and ICL mainframes and the fundamentals of computing. Believes he passed A-Level computing at school based on what he learnt from the course in Bristol. Did not know much about computers before taking the test in Cardiff in 1978.

#### **00:06:57 First job in computing technology**

Went straight from his course into working with Ferranti computer systems in Cwmbran. Gerald describes the work environment as a brilliant place for training with lovely people. Some very experienced software engineers would teach Gerald new information such as programming. He worked with military grade systems which were very hands on and people working with them needed to know instruction formats. Anecdote about going for an interview at Barclays where he was questioned on the inputs of the Ferranti FM 1600 e-computer as the interviewer used to work for the navy where they used the same systems, so his knowledge put him in good stead for the interview.

#### **00:08:31 Describing the systems at Ferranti**

Military systems designed to withstand impacts like explosions. Very tough and not easy to operate. Good at what they did like taking readings from radars. Not very adapted for human use.

#### **00:09:14 First experience with DEC: part one**

First bought in the VAX-780 or 782 to Ferranti, he does not remember which version it was. Command language was much easier than what they were used to. Gerald recalls how impressed himself and his coworkers were at the system. Could type in 'help' to the system and useful information would be shown. It used monitors whereas the military systems used teletypes with punch card readers on the side. Teletype was a keyboard with something like a typewriter but was much bigger. Used a tape-based compiler which could take hours for one program. The VAX system's compiler was on disc so it could almost instantaneously program. Had a good debugger. The system completely changed the programming environment.

#### **00:11:34 Learning to program**

Worked as a computer operator but learnt programming in his own time. Knew that a computer could do work more efficiently than him so taught himself how to utilise the computers features like utility programs. On the paper tape Gerald put together a program where inputting characters would be punched into the tape.

#### **00:12:38 First experience with DEC: part two**

With the Ferranti systems only one person could do the programming at a time. The VAX was both multiprocessing and multiprogramming meaning more than one person could use it. VAX-782 had more than one processor on it so it could do two things at the same time. Could use commands to log the other person out of the system.

#### **00:14:24 Move to Plessey Defence Systems**

Had a few DEC cluster systems set up including a VAX cluster. New role at Plessey was software engineer. Believes that Ferranti had the first VAX in Wales. A lot of work at Plessey was developing for military systems. Some commercial packages were run but not many. VMS had good utilities but would only show graph plots on a screen. Gerald created a program in pascal for data to be printed across a whole sheet of line paper. Using this, he created a graph on system usage and convinced his manager to introduce flexitime as all the software engineers would be working at the same time and overwhelm the CPU system and it would run out of memory. Discs and memory were expensive so flattening the graph would mean they had to buy memory less often.

#### **00:18:15 Why DEC was chosen by military companies**

Speed of production was good. Excellent debuggers, programming tools, and cross compilers. Previous defence language was Coral 66 from 1966. DEC created a new digital compiler to replace this. It had a good editor and was easy for new programmers to use as it was in English. Command language was very good. DEC's salespeople had knowledge in engineering so they could answer questions which made companies respect them. They also had engineers to come and fix issues. Barclays had a permanent onsite DEC engineer and would also be a point of contact between the two companies. DEC cultivated a strong relationship between them and the customers. They listened to their customers and would address issues quickly.

#### **00:22:59 Previewing DEC hardware**

They gave nondisclosure sessions to give users an idea of what would be released in the next operating system which allowed companies to make business decisions based on it. Saw a preview of the Alpha chip at a session in Newbury Racecourse. The chip had the capabilities of a VMS processor but on a microprocessor. Only took up around 15% of the available CPU and was manipulating 3D objects in real time. Also saw previews of software which included programming tools and system management.

#### **00:25:27 Use of the VMS in other companies**

British Petroleum (BP) had a VMS system to input data into a computer. Oil refinery had a system to look after failsafe devices including safety critical valves. Port Talbot Steelworks system was driving the process control computers and controlling the thickness of the steel. All these different areas formed the large systems special interest group and would come together to discuss what they wanted from DEC who would send a representative and listen to their ideas.

#### **00:26:50 Digital Equipment Company User Group (DECUS)**

Group of like-minded people who held conferences at universities. DEC would bring in experts from the United States and were very prepared to answer any technical questions. Gerald volunteered for the committee as he wanted to give back.

#### **00:28:32 Working for Hoskyns Facilities Management**

Had to bid to put together a technical help desk and had to put it together without any staff or kit. Software called Deliver was used with the VMS mail systems to interrogate the messages and process them. Gerald realised this would be useful on a help desk. This meant people could log a problem they had and get updates by emailing their log number and the word 'status' in the email title.

#### **00:30:40 Sharing software and hardware in the DECUS community**

Gerald got the Deliver software from the DECUS community. Describes it as a give and take environment. He would donate items such as utilities for backups. Believes that the sharing of software and ideas in DECUS sped up the progress of business and would have been much more expensive without it. The people involved did not get financial compensation or recognition for donating items. DECUS software library sorted out issues of copyright and intellectual property.

#### **00:33:20 Barclays IBM course**

Gerald's wife worked for Barclays and was sent on a very basic IBM mainframe course. The IBM system had to be told where to create a file whereas the VMS system could process it automatically. Gerald had a similar experience on a course with Sun Microsystems. VMS was much more user friendly.

#### **00:35:32 Organising a meeting with Barclays senior managers**

Gerald's wife worked on the networking side of Barclays. She told him they were looking at setting up a VMS system and wanted to organise a visit for the senior managers. They came to see the computing room which worked very well but had cables everywhere. Had a meeting in Plessey's boardroom and gave them a high-level overview of what the features of the system were. Barclays reciprocated this months later and invited Gerald and his boss to their purpose-built data centre in Poole.

#### **00:37:07 Barclays VMS cluster**

They had a large VMS cluster running. Gerald describes the size as being able to fit an Intercity 125 train inside. The cluster split and were four miles apart and Plessey used half as a high availability cluster. At the time this was the biggest private network for VMS. They had other cluster sites around the world.

#### **00:39:21 Explaining what a high availability cluster is**

Groups of computers made to be able to take over if one computer in the system went down to minimise downtime. It would be very expensive if the whole system stopped running. Clustering was the gold standard for systems.

#### **00:40:17 What the Barclays cluster system was doing**

Working for a European network trading system. Gerald was a contractor tasked with looking after the interfacing for the network, called SWIFT (Society for Worldwide Interbank Financial Telecommunications). All SWIFT payments went through the cluster systems. Gerald looked after the hardware and made minor adjustments to the software if needed.

Gerald's wife, Sonya Edwards, was the person who opened the system around a decade before and Gerald closed it down as it was being transferred to another HP tandem.

#### **00:43:16 Working with NatWest insurance**

Worked a short contract and saw a different commercial side to computers. NatWest would put out an advertisement and there would be lots of phone calls and hits on their system which Gerald had not seen before. System load was directly proportional to when a television advert would be released.

#### **00:44:53 Downfall of DEC**

Internal battles happening in the company. Lack of direction. Staff moved around and some were made redundant. There was a point where DEC were going through multiple sales directors a year. Although they were still motivated to do a good job, they did not have the history of working with the company, so the relationship was not the same. Created instability which in turn created opportunities for IBM and Unix. Gerald was working at HP was pioneering IBM's WebSphere MQ series on VMS, but IBM were not serious about supporting this which created questions around the usefulness of VMS and DEC in general.

#### **00:49:08 Small companies working with DEC**

The small companies associated with DEC were also motivated to please customers. Some are still using VMS systems. Not owned by HP anymore. Gerald hopes they continue to use VMS.

#### **00:50:08 Personal impact of DEC**

Very pleased with how things have turned out as he was the son of a miner and was from a mining valley. Met lots of lovely and clever people through DEC. Anecdote about entering a photography competition and the judge being a former DEC employee and they discussed the VMS system as the knowledge stuck with them.

#### **00:51:53 DEC training and office in Reading**

Gerald praises the training that was run in Reading at Shire Hall as being very professionally run with well-designed courses. Apart from the marketing in the later years, it was a brilliant company to work with. A calm environment. Excellent VMS system management courses. Met DEC workers who were very knowledgeable and had good rapport.

#### **00:53:36 DEC's relationship with customers**

Did not try to upsell or oversell. Receptive to customers ideas. Always trying to please the customer. All the engineers Gerald met were good ambassadors, diplomats and technologically knowledgeable. Gerald believes this culture has moved on and changed as things are not as well tested and companies do not want to fix problems. Believes a lot could be learnt from DEC. acknowledges that DEC had faults such as not maintaining relationships with big companies in the United Kingdom.

#### **00:57:10 Meeting his wife**

Met Sonya though working in the same company on DEC systems. She was a programmer's assistant whilst Gerald was an operator in Ferranti.

### **00:58:08 DEC's worldwide legacy**

Ability to produce computer resources that were highly available and secure. Did not have an antivirus software on the systems as they were so secure. Gerald hopes that everyone working on new systems will have a branch of VMS clusters with hierarchical security just like how he did.