

# CSIRO Unix ports

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The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is an Australian Government agency.

## 1. Unison, SIRONIX

### Siromath

Siromath Pty Ltd was founded in 1981 as a mathematics consulting company. Previously the CSIRO Division of Mathematics and Statistics (DMS) did some consulting to private industry.<sup>1</sup> Dr Richard Tweedie resigned from DMS to become General Manager of Siromath.<sup>2</sup> Siromath went into receivership in 1989.<sup>3</sup>

The Universities of New South Wales and Sydney implemented share scheduling for Unix, calling the resulting system the Australian Unix Share Accounting Method (AUSAM).<sup>4</sup> This was influenced by the Share Scheduling scheme described by John Larmouth at the University of Cambridge.<sup>4, 5</sup> Andrew Hume did the initial Unix implementation.<sup>4</sup>

In 1980, Chris Rowles of the Department of Chemical Engineering at the University of Sydney modified AUSAM to run on a PDP-11/34 with RL01 disk drives. This version of AUSAM ran at three CSIRO sites.<sup>6</sup> In 1980, DMS were running a version of AUSAM based on Sixth Edition Unix.<sup>7, 6</sup> Chris joined Siromath in 1982 and was head of the Unix Group.<sup>8, 9</sup>

The 1982 DMS annual report describes SIRONIX as a distribution of System III.<sup>10</sup> An overview of SIRONIX mentioned Siromath would be offering binary licenses.<sup>11</sup> SIRONIX was initially available for PDP-11, VAX, and Unison machines.<sup>11</sup>

Siromath ported its version of Unix called SIRONIX to Unison.<sup>12</sup> SIRONIX for the Unison was based on Seventh Edition Unix and System III.<sup>13</sup>

Siromath marketed and supported Xenix for the Apple Lisa and IBM PC XT computers.<sup>14, 15</sup>

DMS had Motorola 68000 based Unity machines from Digital Electronics Pty Ltd that ran System III and 4.2BSD.<sup>16</sup> Seemingly rebadged Integrated Solutions machines.<sup>17</sup>

### Information Mechanics Incorporated

William Hollier (who had worked at the University of Melbourne Department of Computer Science) designed the Unison computer in 1981.<sup>18, 12</sup> Hollier's company was Information Mechanics Incorporated Pty Ltd (IMI).<sup>12</sup>

Hollier says colleagues at the University of Melbourne ported Unix to the Unison.<sup>19</sup>

According to Peter Thorne the Unison computer was developed by Jurij Semkiw, Robert Elz and others including Steven Lynch and Michael Flower.<sup>20</sup>

### L & L Australia

L & L Australia Pty Ltd was founded by Corrie de Waard.<sup>12</sup> L & L was formed as a merger of a company that sold computerised petrol pumps and Kelvinator Australia, which at the time was a subsidiary of Email Ltd.<sup>12</sup> Kelvinator Australia became a subsidiary of Email Ltd on 24 January 1980.<sup>21</sup> L & L Australia was later renamed to Email Electronics Pty Ltd.<sup>22</sup>

L & L purchased Australian manufacturing rights to Unison.<sup>12</sup> The Unison machines were made by L & L in Kilsyth, a suburb of Melbourne.<sup>23</sup> They were 8 MHz Motorola 68000 based machines in Eurocard

compatible cabinets.<sup>23</sup> Unison D10 with 10 slots, and Unison D21 with 21 slots.

## **2. CSIRONET workstation, System V/68**

### **CSIRONET**

In 1967, the CSIRO Computing Research Section was renamed to the Division of Computing Research (DCR).<sup>24</sup> The DCR maintained the CSIRO Computing Network (SIRONET, later CSIRONET).<sup>25</sup> In January 1985 the DCR was split into multiple organisations. CSIRONET for the computing service, and the Division of Information Technology (DIT). CSIRONET was privatised in 1987 and became known as PAXUS ComNet.<sup>26</sup> PAXUS ComNet closed in 2000.<sup>27</sup>

It was decided to replace the PDP-11 CSIRONET nodes with a Motorola 68000 based design.<sup>28</sup> The initial Micronode machines were deployed on CSIRONET in mid-1983.<sup>29</sup> Micronodes used a 8 MHz Motorola 68000 with 256 kB of memory. There was a VERSAbus card cage for up to 6 cards. One of which was the CPU board.<sup>30</sup>

There were plans to create an enhanced version of the Micronode hardware that could function as a Unix workstation.<sup>29</sup> The workstation project was announced in August 1983.<sup>31</sup> Siromath Pty Ltd was to be involved in developing Unix for the workstation hardware.<sup>29</sup> At the end of 1983 it was planned for the workstations to run 4.2BSD from Siromath.<sup>32</sup>

### **Techway**

Techway was founded in 1979 by Peter Jones.<sup>33, 34</sup> Techway listed on the Australian Stock Exchange in 1993.<sup>34</sup> The company was sold to Intellect in 1997 who closed it.<sup>35</sup>

Techway sold an ELXSI 6400 computer to the Australian Department of Defence in 1984.<sup>36</sup> One was also installed at the University of Melbourne in 1984.<sup>4</sup>

### **Office Automation**

Office Automation was acquired by Techway Ltd in 1986.<sup>37, 38, 33</sup> It was renamed to Network Research.<sup>39</sup>

Office Automation Pty Ltd of Canberra won a tender to build the Micronode.<sup>40</sup> It was jointly developed with DCR.<sup>41</sup> In 1987, CSIRONET and Techway Ltd created a joint venture called Network Automation Pty Ltd. Network Automation was to commercially market the Micronode hardware as the Ultranode.<sup>37, 42</sup> Network Automation closed in 1993.<sup>43</sup>

### **Neology**

Fawnray Pty Ltd was founded in April 1980 by Greg Rose, John O'Brien and Allan More as an Australian distributor of Whitesmiths Ltd's Idris operating system.<sup>44, 45, 46</sup> In November 1984, Fawnray merged with Prance Computer Software Pty Ltd to become Fawnray Prance Ltd.<sup>46</sup> Chris Maltby joined the company in December 1984.<sup>47, 44</sup> In March 1985 the combined company changed its name to Neology Ltd.<sup>45, 46</sup> The company was declared insolvent in November 1985.<sup>46</sup>

A port of Unix System V to the ELXSI was completed in December 1984.<sup>46</sup> A port of Unix System V/68 to the proposed CSIRONET workstation was started.<sup>46, 48</sup> System V Release 2.<sup>49</sup> Neology sold a computer known as Neat. An IBM PC-AT with a co-processor which ran System V Release 2.<sup>50</sup> The Neat computer was announced at Infotex Canberra in November 1985.<sup>50</sup>

### **Whitesmiths Australia**

Whitesmiths Australia Pty Ltd was founded in 1986 by John O'Brien.<sup>51, 52</sup> The company was later renamed to Whitesmiths Group Pty Ltd?

### **Softway**

Softway was founded in January 1986 by Greg Rose and Chris Maltby.<sup>44, 46</sup> Techway had a 60% stake which was sold off in 1991.<sup>53</sup> Softway was renamed to Aurema Pty Ltd in 1999.<sup>54</sup> Aurema was sold

to Citrix in 2007.<sup>55</sup>

Softway completed the Unix port to the CSIRONET machine started at Neology.<sup>46</sup>

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