

LEO Emulation Issue on the IBM 3081D

In 1983 as recalled in 2026 by Cliff Crossman

Background

In 1970 LOLA inherited a LEO III computer that was running Hackney's computing systems from 1966. This was operated at the original computer centre at 6-24 Southgate Road, Hackney.

It was decommissioned by April 1974 and the premises vacated in the late summer. This decommissioning was facilitated by IBM writing LEO emulation software to handle some remaining LEO applications, notably Payroll. At this time LOLA had an IBM 370/158 with 2MB (later 6MB in 1979). *For more information see the [hardware page](#).*

As at 1st September 1978 there were [39 LEO programs under emulation](#), mainly Payroll and Rents Over some years these programs were rewritten to run natively on the IBM, usually in the PL/1 programming language.

IBM 3081D Installed

In July 1983 IBM 3081D series machine with 24 MB of memory and running MVS was acquired. When the 3081D was installed, the LEO emulator failed as it could not reference memory locations using the full 24MB. The solution supplied by IBM was to edit the available memory value in the operating system when the system was re-booted.

Therefore, after the on-line system closed and database backups taken, the system was closed down and IPL'ed (Initial Program Load). On the system console you could set a check stop when a memory location was referenced. On either the second or third time the stop was triggered, the hex value would be edited and the IPL continued, making the system appear smaller than it really was.

As soon as convenient after the last Stocks program had run the machine would be closed/restarted normally to go back to 24M. If I was a betting man, I would put my money on 12M being the reduced value, but I'm not completely sure.

I remember going through this process for a number of months.

End of LEO Emulation

I can only give a rough estimate for the [end of the] LEO conversions [to native IBM], as I was relatively junior. I remember the Payroll app changing as one of the changes was a new payslip design (from a design point of view I preferred the old payslip as it was a cleaner layout). This would have happened around 1980.

I don't remember the Rent system changing, this in all likelihood would have been invisible to me. The last LEO application to run was [Creditors] Stocks and Transport, which would have been in 1984. These batch processes ran on either a Wednesday or Thursday evening.

Cliff Crossman

Cliff started at LOLA as a trainee operator in September 1978. He left LOLA in December 1985.

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This version is slightly edited by Alan Cooper and again on 8th February 2026.