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The Truth about COBOL

Time to Rethink: The Future of COBOL

COBOL is over 65 years of age and continues to run countless vital systems in many industries. Why is it still such a sensible choice?

Why COBOL became the cornerstone for business

The COBOL computer language was devised by committee in 1959 with the purpose of supporting commercial application creation. The designers sensibly specified the following defining attributes that have been foundation in its success:

1. Business Focus – arithmetic accuracy, brilliant data handling and strong typing all contribute to a language that is fit for purpose for large-scale data processing and number-crunching.

2. Ease of Learning – COBOL's English-like syntax, to enable 'anyone' to learn it, and rich vocabulary means it is one of the easiest of high-level languages to learn and maintain.

3. Machine Independent – COBOL's portability means it can run unchanged on mainframe, mid-range, UNIX, Linux, Windows and Cloud.

These defining characteristics remain foundation to the language even today. Later languages ignored some of the above principles, cementing COBOL's position as a business-specific, readable, portable language to continue for decades.

COBOL had been introduced as a working compiler in 1960, and by 1970 was the world's most popular programming language. In the 1990s, Gartner estimated there were over 200 billion lines of production COBOL code worldwide. In 2021, separate surveys by both the Open Mainframe Project (250bn) and Micro Focus (775bn) revised that estimate to be significantly higher, suggesting that COBOL's footprint had expanded.

Current Situation

The COBOL technology market continues to evolve steadily. The COBOL language standard has evolved slowly over time (more recent additions included intrinsic functions and object orientation), while vendor innovations have added contemporary support for new platforms, cloud, containers, APIs, interlanguage communication, modern IDEs and much more. It is fair to say, however, that the pace of change with the COBOL language is limited compared with other language options.

Furthermore, technology is only valuable if there are skilled professionals trained to use it. So, questions—given its age—are often raised about COBOL's 'next generation'.

While exceptions exist, the inclusion of COBOL on academic courses has dwindled, with hundreds (rather than the many thousands for Java or C, for example) of higher education institutions teaching the subject. This means organizations must invest in training programs, apprenticeships or 3rd party suppliers instead. While some have, the COBOL world faces a widely reported skills challenge.

A bigger question perhaps is how well do those new COBOL staff really understand the business, or the specifics of the applications, they will be working on. The answer is typically that there is a very slow learning curve for anyone to become a true expert in each application area (and that's true, regardless of language). Given the sheer scale of these COBOL systems (often millions of lines of code), it is not practical for anyone to understand them fully, however many trained staff are assigned. It requires dedicated, trained staff, yes, plus – crucially – appropriate tooling to assist with exploration, understanding, documentation, and issue identification. The choice and depth of technology requirement will depend a lot on the incumbent system, and the organization's strategic approach to modernization.

Many other factors may affect attitudes towards COBOL. Issues such as organizational policies regarding in-house resourcing versus outsourcing; strategy regarding hardware choices (mainframe, cloud, hybrid); strategy regarding development practices (agile, waterfall); strategies regarding home grown versus packaged applications (ERP, CRM, etc.); investment decisions regarding innovative technology such as GenAI. Against these wider considerations, a dedicated, proportionate prioritization of COBOL systems is understandably difficult.

Reminder: The Value is the Business Function

For IT strategy, it is important to consider the true value of technology. In that regard, COBOL is no better or worse than any other language or IT system. In fact, language choice is not the

issue at all—it is about the business value of the applications.

An organization's core intellectual property exists, in the form of the existing applications' business rules, written in COBOL. Those business rules are the nuggets of gold in the organization, and has been delivering business value (revenue, customer service, operational efficiency) for years. Protecting and harnessing that value is a vital aspect of any successful long-term IT strategy.

COBOL's widespread usage, have created question marks over its future viability. It is accused as being the reason for technical debt, and poorly maintained, monolithic systems, with an associated skills crisis. But the challenges faced by their COBOL systems are, however, little if anything to do with the language at all.

With appropriate investment in people and technology, COBOL systems can continue to remain as viable as they are vital to the organizations they serve.

The CobolCloud Advantage

CobolCloud are experienced COBOL and business system experts and have been involved in modernizing customer critical applications for over three decades. Our heritage goes back to previous organizations, covering customers running over 500 million lines of code (LOC) in production, from over 250 successful modernization projects.

CobolCloud came into business to reimagine the process by which customers can evolve and deliver the next chapter of their most important business systems. Whether into the cloud or containers or elsewhere, we are developing a unique, tailored approach to the technology, processes and even the skill pool of the customer to build a more predictable and guaranteed means of success for their IT systems.

Our perspective is that the value of your business systems matters – and protecting and evolving that value to support the future is the priority. Often, reusing the foundations of a working system is the best way to drive to the future.

Our experience in this industry, plus our products and processes (across the many variants of COBOL in use today) make us the domain experts and enable us to support customers looking to modernize today and regain control of delivering IT innovation into the future.