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1 50 Years of Delta ADS - And how it started

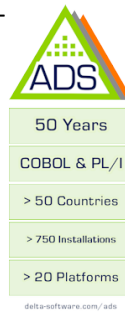
Delta ADS turns 50



Delta ADS - Review

This year, 2026, we celebrate 50 years of Delta ADS. In this years newsletters we will look back on the history of Delta ADS and reflect on its features that have contributed to its long lasting success.

Half a century ago, programming a computer was a special kind of magic for most people. It also was an individual and very creative process with pen, paper and punch cards. Getting complex programs functioning correctly was a difficult and time-consuming process and came with considerable costs that did not allow for the compiler to be used for error finding.



The use of terminals to write programs was a big improvement in the development process. It provided a better overview of the program logic without having to compile and print a listing first. This overview was limited of course by the maximum of 24 lines a terminal was able to show at the same time. This was not

sufficient for complex decisions which gave rise to the first tools to support the programming. Although such tools were available for many programming languages, the main field for these tools was in the area of the most widely used programming language for business applications: COBOL.

1971: The First Idea

In 1971, Dr Reinhold Thurner of Zürich University published¹ about the use of decision tables in the software development which led to DETAB/GT to generate the programming code based on a more abstract definition language . By 1976 DETAB/GT reached 100 installations, the same amount of installations was achieved by its competitor VORELLE².



Generating a complex decision structure for COBOL programs was a great help, especially when keeping in mind that in these days COBOL statements were terminated by a single point and complex decisions could easily run over 24 lines of code. It also showed that effective programming needed more. A major step was not in the use of tools but in the way, programs were structured. In an environment dominated by card readers, tapes and report writers (hard disks were expensive



and had only limited capacity), each program depended on the structure of the input and output data. The fact that each programmer used his or her personal style and creativity did not make the maintenance of these programs easy. Some kind of craftsmanship and best practices was needed. This led to a number of Structured Programming initiatives. The most widely used was Jackson Structured Programming (JSP)³ that Michael Jackson published in 1975.

At the same time Dr. Thurner launched a generator system that, based on the principles of structured programming, was able to produce much of the needed code. It used an abstract description of the structure of the data, in a language specifically defined for that task. The product was called DELTA⁴. It solved the problem that Dijkstra addressed in 1968. The programmer did not need to program and maintain any GO TO statement, only the generator produced them for the executable program⁵.

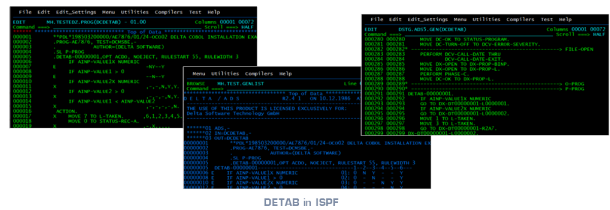
Over the years, Delta (later called Delta/ADS) was extended with a number of standard generators for standard functionality in Business Programming. PSD (Program Schema Description) and GRU (Control Break Processing) helped programmers to keep an overview of their programs and to focus on the unique functionality they have to implement while not being bothered by mechanisms needed to implement it.

Platform independence - Thanks to Generators

A major step in the development of Delta ADS was the concept of platform independence by the use of generators and macros. Back in the old days, each mainframe (compiler) had its own deviations of the COBOL standard. A program written for platform A was thus not usable on platform B without changing the source code. Not a big deal if you develop your software inhouse for your own use but it is for a software supplier that wants to install his software on many platforms. The use of the generators and macros in Delta ADS to deal with the platform specific aspects of the implementation meant that a program for many different target platforms could be maintained in one single source code object.

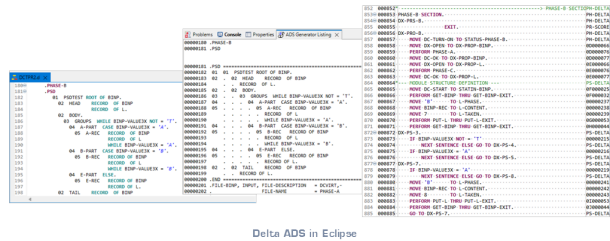
Platform independence did not only benefit software suppliers but after some time many Delta ADS users discovered that this possibility also facilitated a platform migration. The fact that an existing application could be migrated easily to a new platform when using Delta ADS is an important reason why many installations are still actively used, some for over 40 years, and that Delta/ADS is still alive and kicking after 50 years.

"I am pleased that after 50 years, Delta ADS is still being used successfully for the development and migration of large and complex applications."
Dr. Reinhold Thurner



The Future - and beyond

Like Delta DETAB, Delta ADS for COBOL and PL/I remains a part of our product portfolio. Over the years an estimated 2+ billion unique lines of code have been generated with our generator system, a number that is still growing each year. Initially, DETAB and Delta ADS were only available for the platforms for which they generated code. Today they are also integrated into modern development environments such as Eclipse or Visual Studio and can generate cross-platform.



As the advantages of this generative approach to software development is still valued by our customers we remain committed to supporting them with our tools. The current release 6 of Delta



ADS will certainly not be the last as we will continue to find solutions for the challenges our customers experience in their software development process.

History

Article from Computerwoche, January 10, 1975 - Delta Author Dr. Reinhold Thurner:

„Multifunktionales Generator-System für moderne Software-Technologie: Ein Superding für die Avantgarde“

50 Years Delta ADS



Life starts at 40 something: Delta ADS turns 50 this year

Developing software is looking to the future, but sometimes it is good to turn around and look back. As we did, we discovered that the foundations of our products were made almost half a century ago.

[Read more](#)

[Download](#)

Sources

- 1 Thurner R., „Entscheidungs-Tabellen: Aufbau-Anwendung-Programmierung“, VDI- Taschenbuch T33, VDI Verlag, Düsseldorf, 1971.
- 2 Jeweils 100mal installiert: Vorelle und Detab/GT | Computerwoche, 02.07.1976
- 3 Jackson, MA (1975), Principles of Program Design, Academic.
- 4 Multifunktionales Generator-System für moderne Software-Technologie: Ein Superding für die Avantgarde | Computerwoche, 10.10.1975
- 5 Dijkstra, Edsger W. (March 1968). "Letters to the editor: Go to statement considered harmful" (PDF). Communications of the ACM. 11 (3): 147–148. doi:10.1145/362929.362947. ISSN 0001-0782. S2CID 17469809.
p. 147, "The unbridled use of the go to statement has as an immediate consequence that it becomes terribly hard to find a meaningful set of coordinates in which to describe the process progress. ... The go to statement as it stands is just too primitive, it is too much an invitation to make a mess of one's program."

2 AMELIO Logic Discovery - Spring cleaning for COBOL and PL/I Applications

Spring is here and with it comes the sun. The beams reach the corners and reveal dust and dirt gathered over the cold and dark season. An old tradition is to tidy up in the spring time.



Why don't you extend your spring-cleaning also to your COBOL- and PL/I-applications?

COBOL and PL/I applications form the backbone of the IT landscape in many companies until now. These applications are often 40 years old or even older and have proven themselves during this period. But within this time the applications were alive. They got continuously enhanced and forced to be adapted to changing environments and new requirements more quickly. That's why in many companies the question arises how these long time investments can be secured and how to avoid that the legacy applications will become a cost-intensive foot on the brakes.

Our flyers show you how to free your applications from unnecessary dust and dirt and make them fit for the future. And all this is 100% automated and without interfering with ongoing operations or regular maintenance. AMELIO Logic Discovery and AMELIO CleanUp can help with this.

Read here:

[Download](#) **Remove Your Technical Debts with AMELIO CleanUp**

[Download](#) **AMELIO Logic Discovery - Spring-Clean Your COBOL- and PL/I-Applications**

[Download](#) **Everything new in Spring?**

[Download](#) **Analysing a Big Ball of Mud**



3 Delta ADS-Webinar - Refresh & Connect

Delta ADS has been the proven solution for efficient development of operational backend applications in COBOL and PL/I for almost 50 years. Our customers are active in all sectors and have been benefiting from the advantages and continuous development of Delta ADS for many decades. Even at the age of 50, Delta ADS is still evolving to meet today's requirements.



We would like to invite you to join our free webinar, "Delta ADS - Refresh & Connect" on June, 17th 2026, at 11:00 a.m. CET. During the webinar, we will provide you with information about all the latest updates and open the opportunity to connect with other Delta ADS users.

Topics related to the development with Delta ADS and the possibilities of its integration in modern development environments such as Eclipse or Visual Studio with Delta ADS will be presented and discussed.

- **"Efficient Development with Delta ADS 6 and Delta IDS"**
Dr. Daniela Schilling (CEO, Delta Software Technology) and Martin Herbst (Chief Architect, Delta Software Technology)

This will be followed by a panel discussion and an exchange of experiences.

[Register now ...](#)

The Webinar will be held in German. If you are interested in getting the presented information, [please contact us directly.](#)



Would you like to get a head start? Here are the relevant reports:

YOUPLUS Unifies its Development Environment and Updates Delta ADS

A modern development environment was the goal for the software developers of YOUPLUS Assurance Schweiz AG. Together with Delta Software Technology, the previous development environment was replaced by ADS on Eclipse and at the same time the generator system Delta ADS for COBOL was updated.



More here:

<https://delta-software.com/link.php?en=6353>

Bedag Relies on Delta ADS on Visual Studio

A uniform process control and development environment for the different programming languages is the goal of many enterprises. Bedag Informatik AG (Bedag) has mastered this step, it unifies its development processes and thus ensures a more efficient and future-proof application development.



More here:

<https://delta-software.com/link.php?en=6291>

Aquila Heywood introduces ADS on Eclipse

Aquila Heywood improves its Delta ADS software development by moving to Eclipse and Update to Delta ADS 6.



More here:

<https://delta-software.com/link.php?en=6301>

B+S Improves Efficiency of Software Development with ADS 6

B+S Bankssysteme AG (B+S) has one of the largest application systems that has been developed with Delta tools. In April 2012 B+S started to introduce the pre-release of Delta ADS 6 in order to again increase the efficiency and quality of their software development and maintenance.





More here:

<https://delta-software.com/link.php?en=6201>

4 Let's meet Delta!

Following you will find some great events that we recommend and at which you can meet us and our partners:



- [IBM Z Symposium 2026](#) | 22.-23.04.2026, Ehningen, Germany
- [GSE BDB2D DB2 Systemverwaltung Tagung](#) | 27.-29.04.2026, Karlsruhe, Germany

- [WSRE 2026](#): 28. Workshop Software-Reengineering & -Evolution | 06.-08.05.2026, Bad Honnef, Germany
- [GSE DACH Jahreskonferenz](#) | 11.-13.05.2026, Mainz, Germany
- [ceCMG Tagung](#) | 20.-21.05.2026, Frankfurt, Germany

Please give us a call to schedule a date. We are looking forward to seeing you.

<https://delta-software.com/link.php?en=6955>