

Contents

- 1 **Speedware and COBOL-IT**
- 2 **Speedware Offers Time Machine Software to Legacy Modernization Customers**
- 3 **Speedware Chosen as Successful Supplier under TBIPS**
- 3 **New Features in Speedware V7.13**
Enhancements in Speedware's classic development tool
- 4 **Where We've Been**
Speedware at the Gartner AADI Summit and other events
- 5 **Numbers into Words**
Converting numbers to their text equivalent in Speedware/4GL
- 10 **System Performance with AMXW**
Key factors for getting the most out of your AMXW production system

Speedware and COBOL-IT



Speedware has signed an agreement to become the North American distributor for COBOL-IT, an enterprise class open source COBOL compiler. Speedware will be the North American sales and support center for COBOL-IT, providing 24/7 technical support, services and training.

According to Stéphane Croce, president of COBOL-IT, "Sites with COBOL applications on Linux, Unix and Windows platforms are beset with declining support quality and steadily rising support costs. COBOL-IT reverses that, providing high quality support through our network of technical hubs on a low cost, open source model. Mainframe COBOL users can rehost their workloads to mainframe Linux, or to non-mainframe platforms, and still enjoy enterprise class support."

More and more organizations are opting for non-proprietary but professionally supported open source technologies such as Linux and MySQL. Open source has proven itself as a viable strategy to reduce operational costs, and to avoid being locked in to one vendor. An open source solution for COBOL workloads allows sites to take advantage of the open systems world without having to pay premium prices for proprietary COBOL compilers.

"Mainframe sites need robust re-hosting solutions to securely move their workloads to other platforms," said Don Estes, COBOL-IT Regional Director for USA/

Canada. "Speedware is a natural partner for us with their modernization expertise, SCP-certified support organization, and impressive history of successful projects. Speedware and COBOL-IT together can secure the bottom line advantages of open systems and open source for our North American customers. We welcome them as our newest technical hub."

Speedware provides rehosting and modernization solutions for organizations operating on legacy platforms, including mainframes. These organizations have programs written in many languages, but most commonly COBOL. Speedware's solutions replace aging computing platforms with more agile and flexible infrastructure, and transform older, legacy computing languages to modern technologies. Open source COBOL can now be offered as a viable option for many customers interested in legacy re-hosting and modernization.

"We are excited by our new partnership with COBOL-IT," said Andy Kulakowski, President of Speedware. "By offering our legacy customers the option of moving to open source COBOL, we give them the opportunity to save substantially on licensing costs while still benefiting from enterprise grade support and services. COBOL-IT is to COBOL what Red Hat is to Linux, and we are proud to be North American distributors."



Publication info

Speedware Inc.
 6380 Cote de Liesse Road
 Suite 110
 St. Laurent, Quebec
 Canada H4T 1E3

Tel: (+1) 514.747.7007
 Fax: (+1) 514.747.3380

E-mail:
 info@speedware.com

Speedware Support hours

As always – 9 to 5 your time

Toll-free from:

- US & Canada:
1.800.361.6782
- Belgium, France,
Germany & UK:
00 800 361 67 82 0
- Australia:
0011 800 361 6782 0

Other int: (+1) 514.747.9494
 Fax: (+1) 514.747.3380

E-mail:
 support@speedware.com

Support web site:
www.speedware.com/sws

Trademarks

AMXW, DBmotion, Decision Server, EasyReporter, Esperant, Media, MobileDev, Speedware, Speedware Autobahn II, SpeedWeb and Visual Speedware are trademarks of Speedware Inc.

All other products are trademarks of their respective manufacturers.

© 2011 Speedware Inc.
 SPE-MKPROF21-01

Speedware current versions

AMXW	8.05.25
DBmotion	3.00
Esperant	5.2
Media	5.2
Speedware	7.13
Speedware Autobahn II	5.01
SpeedWeb	3.04
Visual Speedware	4.00

Speedware Offers Time Machine Software to Legacy Modernization Customers

Speedware announced in September 2010 that it has entered into a worldwide reseller agreement with Solution-Soft, a leading provider of Intelligent Data Optimization (IDO) solutions. Speedware will be reselling Solution-Soft’s Time Machine® software to legacy modernization and migration customers.

Speedware provides modernization solutions that resolve the current challenges facing organizations operating critical business applications on legacy platforms such as mainframes and midrange servers. These solutions replace aging computing platforms with newer, more flexible infrastructure and transform outdated legacy computing languages to the latest technologies. Successful legacy modernization projects can lead to increased business agility and lower operational costs as well as technology consolidation and less dependency on diminishing legacy skill sets.

Solution-Soft’s Time Machine product provides virtual clocks to facilitate application testing, what-if analyses and time zone adjustment. It is a proven solution widely utilized by Fortune 100 and global 500 companies. Time Machine saves hardware and software costs, boosts engineering team productivity and ensures that large scale software projects finish on time and under budget.

As legacy modernization projects involve an organization’s business-critical applications, testing becomes an integral phase of the project, ensuring that the applications run seamlessly after modernization. Transaction events triggered by

system time are one of many basic elements used in testing application validity. The Time Machine software lowers risk when migrating applications by demonstrating the actual performance of the application at whatever date and time is chosen.

“The addition of Time Machine is a natural fit and a great value-add feature for our legacy modernization projects,” said Christine McDowell, Manager of Strategic Alliances at Speedware. “Financial institutions, insurance and government are examples of industries where transactions occur that are event-based critical. Now Speedware customers can benefit from simplified and faster testing by using Time Machine,” she added.



Michael Morrison, Director of Business Development at Solution-Soft agrees: “Customers using Time Machine can expect to reduce time, resources and expenses related to testing critical time events. There is a natural fit and synergy between Solution-Soft’s product and Speedware’s customer base. We are excited to be working with Speedware to introduce our software application to legacy modernization and migration customers.”

Speedware Chosen as Successful Supplier under TBIPS

In September 2010, Speedware was awarded the Task Based Informatics Professional Services (TBIPS) Supply Arrangement and Standing Offer to provide specialized IT services to the Federal Government of Canada.

TBIPS was established by Public Works and Government Services Canada (PWGSC) to facilitate the delivery of task-based Information Management and Information Technology professional services for the Government of Canada. TBIPS is the newest form of procurement vehicle being used by the Government and is the preferred contract procurement vehicle for many Federal Government departments and agencies. It was brought in to replace the existing procurement vehicles (THS, GOL, PS Online, etc.).



Speedware provides legacy management and modernization solutions that resolve the current challenges facing organizations operating on legacy platforms such as mainframes and midrange servers and government is one of the key markets facing this challenge. The recent auditor-general's report stated that the federal government's aging computer systems posed a "significant risk" to operations. Speedware offers solutions that replace antiquated

computing platforms with more modern, agile and flexible infrastructure and transform older, legacy computing languages to the latest technologies. Successful legacy modernization projects can result in technology consolidation and simplification, less dependency on diminishing legacy skill sets, increased business agility and lower operational costs.

Speedware has already provided IT solutions to numerous government departments and agencies in Canada and the US including the Quebec Ministry of Health and Social Services, the Department of National Defense, the Washington State Board for Community Technical Colleges and Chelan County Public Utilities. This award comes shortly after Speedware had been selected as an Apparently Successful Vendor (ASV) by the Department of Information Services (DIS) of the State of Washington.

"We are looking forward to continuing to help government departments and agencies overcome the obstacles created by outdated computer systems," said Andy Kulakowski, President of Speedware. "Qualifying under TBIPS helps us reach more public sector customers who are in need of the expertise we offer in legacy management and modernization," he added.

New Features in Speedware V7.13

Look for the following new features and enhancements in the latest version of Speedware and SpeedWeb:

- Two new screen events, AT ENTER and AT TRIGGER, provide standard GUI functionality in SpeedWeb applications and are also supported in classic Speedware.
- There's a more flexible approach to control break behavior for reports with multiple sort items.
- The default application name in Designer is "applic" instead of "design" so there's no more confusion between the design file and the application files.
- "Large files," or files over 2 GB in size, are supported on HP-UX, both PA-RISC and Itanium.
- The LOADFILE command, introduced in V7.12, lets you load an individual file instead of a complete database.
- The SELECT verb allows you to select records in one file using a condition defined on another file.



Features designed specifically for SpeedWeb include:

- More ports for socket communication
- A configurable number of logon retries
- Standard Windows list selection functionality in LISTAREA and COMBO fields, and standard Windows text selection in all fields
- Customization of password validation
- Printing enhancements, including more space for long printer names in the Printers dialog
- SpeedWeb fields in GWEB/AWEB improved
- Full SSL encryption for SpeedWeb applications, from the Java applet through to Speedware/4GL.

Where We've Been

Speedware's participation at recent trade shows and other events

Gartner AADI Summit

Speedware was a proud sponsor of the Gartner Architecture, Application Development and Integration (AADI) Summit, held from November 15-17, 2010, at the JW Marriott in Los Angeles, California.

As has been the case in previous summits, topics included SOA and new approaches to application development. This year the event focused more on legacy modernization and cloud computing.

Speedware joined forces with two other sponsoring companies: Alchemy Solutions and Ateras to create the "Legacy Mod Squad," a team of legacy modernization experts offering solutions for mainframe customers. Dressed in retro '60s t-shirts and offering a chance to win an iPad, the Legacy Mod Squad booths were the talk of the show.



The Speedware, Ateras and Alchemy booth staff, sporting their Legacy Mod Squad t-shirts

GTEC 2010

Speedware was a first time sponsor of Canada's Technology Event, GTEC 2010, in Ottawa from October 4-7, 2010.

The event showcases government and industry leadership on how the public sector can use technology to serve Canadians better. The theme for 2010 was High Performance Government.

Speedware hosted a workshop entitled **Legacy Modernization: Get Onboard or Get Run Over**. This was a timely subject given the recent report by the Auditor General that highlighted many of the risks of maintaining legacy systems in government agencies.

Gartner ITxpo Symposium

It was also the first time Speedware sponsored the Gartner ITxpo Symposium, which took place from October 17-21 in Orlando at the Walt Disney World Dolphin.

This event is the industry's largest and most important annual gathering of CIOs and senior IT leaders. It delivers independent and objective content from the world's leading IT research and advisory organization. The symposium delivers the insights, tools and relationships necessary to create, validate and execute transformative business technology strategies.

The event was a success with over 6,600 CIOs in attendance.

Numbers into Words

Converting numbers to their text equivalent in Speedware/4GL

Sometimes it's necessary to display a numeric value using text, like on a cheque for instance. The following code converts a number to its equivalent in words, including dollars and cents. For example, the number 1200 will be converted to One Thousand Two Hundred Dollars and No Cents.

This Speedware/4GL code is based on the Visual Basic code from <http://support.microsoft.com/?kbid=210586>

START:

```
SCREEN-PROMPT-AMOUNT;  
EXIT;
```

FINISH:

```
EXIT;
```

(* Prompt end user for a number and display the converted words. *)

SCREEN-PROMPT-AMOUNT:

```
SET WINDOW;  
SET TITLE ("Numeric Conversion Demo");  
DCL L-NUM  FORMAT (INT,20,2,8);  
DCL L-TEXT FORMAT (TYPE=CHAR,BYTES=320);  
DCL L-CONT FORMAT (TYPE=CHAR,BYTES=1);  
DCL L-BLANK FORMAT (TYPE=CHAR,BYTES=80);  
FIELD L-NUM PROMPT("Numeric Value:") CURSOR (ROW=3,COL=1) NOSEQ DO;  
PRINT "Converted Value:" CURSOR (5,1);  
AT ACCEPT DO  
BEGIN  
    LOGIC-ConvertCurrencyToEnglish USING L-NUM,L-TEXT MODIFY;  
    PRINT L-TEXT CURSOR (6,1) TEXT;  
    ACCEPT L-CONT PROMPT("Press E to Exit. Any other key repeats. ");  
    IF $UPS(L-CONT) = "E" THEN  
        SECTION "FINISH";  
        L-NUM = 0.00;  
        L-TEXT = " ";  
        PRINT L-BLANK CURSOR (6,1);  
        PRINT L-BLANK CURSOR (7,1);  
        PRINT L-BLANK CURSOR (8,1);  
        PRINT L-BLANK CURSOR (9,1);  
        GO L-NUM;  
END;  
EXIT;
```

(* Convert numeric value to words as dollars and cents *)

LOGIC-ConvertCurrencyToEnglish:

```
PARAM P-MyNumber  FORMAT (INT,20,2,8);  
PARAM P-Result    FORMAT (CHAR,320);  
DCL MyNumber      FORMAT (CHAR,30);  
DCL Temp          FORMAT (CHAR,100);  
DCL Dollars       FORMAT (CHAR,1000);  
DCL Cents         FORMAT (CHAR,100);  
DCL DecimalPlace;
```

Numbers into Words

Converting numbers to their text equivalent in Speedware/4GL

```

DCL Count;
DCL Place(9)    FORMAT (CHAR,20);
DCL STRLEN;
DCL Digit       FORMAT (CHAR,100);
DCL Tens        FORMAT (CHAR,100);
DCL Hundreds    FORMAT (CHAR,100);

(* Convert hundreds portion of number *)
SUBSECTION ConvertHundreds FORMAT (CHAR,100):
  PARM MyHundreds FORMAT (CHAR, 10);
  (* Exit if there is nothing to convert. *)
  IF $NUM(MyHundreds) = 0 THEN SUBRETURN;
  (* Append leading zeros to number. *)
  STRLEN = $LEN($TRIM(MyHundreds));
  MyHundreds = $MID("000" + $TRIM(MyHundreds), STRLEN + 1);
  (* Do we have a hundreds place digit to convert? *)
  IF $MID(MyHundreds, 1, 1) <> "0" THEN
  BEGIN
    CALLSUB "ConvertDigit" USING $MID(MyHundreds, 1, 1);
    Hundreds = $TRIM($SUBRETURN("ConvertDigit"), RIGHT) +
      " Hundred";
  END;
  ELSE
    Hundreds = "";
  (* Do we have a tens place digit to convert? *)
  IF $MID(MyHundreds, 2, 2) <> "0" THEN
  BEGIN
    CALLSUB "ConvertTens" USING $MID(MyHundreds, 2);
    Hundreds = $TRIM(Hundreds, RIGHT) + " " +
      $SUBRETURN("ConvertTens");
  END;
  ELSE
  BEGIN
    (* If not, then convert the ones place digit. *)
    CALLSUB "ConvertDigit" USING $MID(MyHundreds, 3);
    Hundreds = $TRIM(Hundreds, RIGHT) + " " +
      $SUBRETURN("ConvertDigit");
  END;
  SUBRETURN $TRIM(Hundreds, RIGHT);
ENDSUB;

(* Convert tens portion of number *)
SUBSECTION ConvertTens FORMAT (CHAR,20):
  PARM MyTens FORMAT (CHAR,10);
  (* Is value between 10 and 19? *)
  IF $NUM($MID(MyTens,1,1)) = 1 THEN
  CASE $NUM(MyTens) OF
    10: Tens = "Ten";
    11: Tens = "Eleven";
  
```

Numbers into Words

Converting numbers to their text equivalent in Speedware/4GL

```

12: Tens = "Twelve";
13: Tens = "Thirteen";
14: Tens = "Fourteen";
15: Tens = "Fifteen";
16: Tens = "Sixteen";
17: Tens = "Seventeen";
18: Tens = "Eighteen";
19: Tens = "Nineteen";
ENDCASE;
ELSE
BEGIN
  (* .. otherwise it's between 20 and 99. *)
  CASE $NUM($MID(MyTens, 1,1)) OF
    2: Tens = "Twenty ";
    3: Tens = "Thirty ";
    4: Tens = "Forty ";
    5: Tens = "Fifty ";
    6: Tens = "Sixty ";
    7: Tens = "Seventy ";
    8: Tens = "Eighty ";
    9: Tens = "Ninety ";
  ENDCASE;
  (* Convert ones place digit. *)
  STRLEN = $LEN($TRIM(MyTens, RIGHT));
  CALLSUB "ConvertDigit" USING
    $MID($TRIM(MyTens, RIGHT), STRLEN);
  Tens = $TRIM(Tens, RIGHT) + " " +
    $SUBRETURN("ConvertDigit");
END;
SUBRETURN Tens;
ENDSUB;

(* Convert ones portion of number *)
SUBSECTION ConvertDigit FORMAT(CHAR, 20):
  PARM MyDigit FORMAT(CHAR, 20);
  CASE $NUM(MyDigit) OF
    1: Digit = "One";
    2: Digit = "Two";
    3: Digit = "Three";
    4: Digit = "Four";
    5: Digit = "Five";
    6: Digit = "Six";
    7: Digit = "Seven";
    8: Digit = "Eight";
    9: Digit = "Nine";
    OTHERWISE: Digit = "";
  ENDCASE;
  SUBRETURN Digit;
ENDSUB;

```

Numbers into Words

Converting numbers to their text equivalent in Speedware/4GL

```

(* Prepare the result *)
Place(2) = " Thousand ";
Place(3) = " Million ";
Place(4) = " Billion ";
Place(5) = " Trillion ";

(* Convert MyNumber to a string, trimming extra spaces. *)
MyNumber = $TRIM($STR(P-MyNumber, 20, 2), RIGHT);

(* Find decimal place. *)
DecimalPlace = $POS(MyNumber, ".");

(* If we find decimal place... *)
IF DecimalPlace > 0 THEN
BEGIN
  (* Convert cents *)
  Temp = $MID(MyNumber, DecimalPlace + 1);
  CALLSUB "ConvertTens" USING Temp;
  Cents = $SUBRETURN("ConvertTens");

  (* Strip off cents from remainder to convert. *)
  MyNumber = $TRIM(
    $MID(MyNumber, 1, DecimalPlace - 1), RIGHT);
END;

Count = 1;
WHILE MyNumber <> "" DO
BEGIN
  (* Convert last 3 digits of MyNumber to English dollars *)
  STRLEN = $LEN($TRIM(MyNumber, RIGHT));
  CALLSUB "ConvertHundreds" USING $MID($TRIM(MyNumber, RIGHT), STRLEN - 2, STRLEN);
  Temp = $SUBRETURN("ConvertHundreds");
  IF Temp <> "" THEN
    Dollars = $TRIM(Temp, RIGHT) +
      $TRIM(Place(Count), RIGHT) + " " + Dollars;
  STRLEN = $LEN($TRIM(MyNumber, RIGHT));
  IF STRLEN > 3 THEN
    BEGIN
      (* Remove last 3 converted digits from MyNumber. *)
      MyNumber = $MID($TRIM(MyNumber, RIGHT), 1, STRLEN - 3);
    END;
  ELSE
    MyNumber = "";
  Count = Count + 1;
END;

(* Clean up dollars. *)
CASE Dollars OF
  ""      : Dollars = "No Dollars";
  "One"   : Dollars = "One Dollar";
  OTHERWISE: Dollars = $TRIM(Dollars, RIGHT) + " Dollars";
ENDCASE;

```

Numbers into Words

Converting numbers to their text equivalent in Speedware/4GL

(* Clean up cents. *)

```
CASE Cents OF
  ""      : Cents = " and No Cents";
  "One"   : Cents = " and One Cent";
  OTHERWISE: Cents = " and " + $TRIM(Cents, RIGHT) + " Cents";
ENDCASE;
P-Result = $TRIM(Dollars, RIGHT) + $TRIM(Cents, RIGHT);
EXIT;
```

Result

And here is an example of the conversion process at run time.



Marc Labonté
Senior Project Consultant

and

Marc Cordeau
Product Support Specialist

System Performance with AMXW

Key factors for getting the most out of your AMXW production system

Now that you have your AMXW production system up and running smoothly, you need to make sure that your machine continues to perform as expected. Knowing where to look when you are experiencing some system lag is very helpful in resolving the issue and getting your machine back up to par.

There are many factors that could affect a server's performance, ranging from an increase in users to zombie processes, memory and CPU usage, application code and databases. Questions that should come up when having server performance issues are:

- What has changed on the system in the last month?
- Have there recently been any new installs?
- Are there any new jobs or processes?
- Have there been any changes in scheduling?
- Do any of the external systems have anything new?
- What processes are happening at the top of the hour when the slowdowns occur? Is this every hour?
- Have you looked at the cron table to see what is scheduled?
- What jobs are scheduled to run every hour?

If all of a sudden your system or application has more users than usual logging on, this may be one reason for a reduction in performance since more resources are being consumed. At the same time, this may or may not be causing an increased amount of network traffic, which will also slow down the server.

Some of these factors are self-explanatory. System backup or an increase in other I/O processes may affect network traffic, which may show some system lag during specific times or during business hours. Some businesses have shift work and this may result in many users logging on and off to the server concurrently as the shifts begin or end. The creation of many connections at once may slow down the server and affect performance. You may want to scatter these processes so as not to affect normal business hours.

For an in-depth investigation, you could use a tool like **Glance**. On HP-UX, Glance gives an overall view of the system performance and process status, including factors like server memory or CPU usage, number of files opened by a process or "wait reason" of a pid, network traffic and many other measures. Further

analysis can determine if your server is low on memory, if a specific process is using an excessive amount of CPU, whether there are too many open files, or if there are any file locks holding things back or if a pid is waiting on something unexpected.

Disc space and the number of files in the UNIX tmp directory and NLTMPDIR should also be monitored. If there is insufficient space in these directories to create new temporary files, processes may be slowed down until space is available. File access could also be slowed down when there are too many files in a directory. See an HP-UX white paper that discusses this: <http://h21007.www2.hp.com/portal/download/files/unprot/devresource/Docs/TechPapers/UXPerfCookBook.pdf>

If there are directories containing excessive numbers of files, an analysis should be made to determine what is creating these files. A directory clean up process should also be set up to remove files that are no longer used or date back many years.

Other factors that could be affecting server performance are zombie processes that may be consuming needless CPU or detached memory segments that may be wasting space in memory. A `ps -ef` may help determine if there are any zombie processes. To review existing shared memory created on the system, use the UNIX command: `ipcs -ma`

On the application side, you may need to monitor or evaluate the performance of your business and database applications to see if they are a factor of the performance problem. For example, poor database locking strategies can cause performance degradations if locks are being blocked causing other users accessing the business application to be held up. Large amounts of disc access to a specific directory can also cause slow downs.

Performance problems tend to be difficult to pinpoint since there are many factors that can contribute to the problem. I hope this article gives you a starting point to use when trying to solve these types of issues.

Tony Aversa
Customer Support