Portionfest

Sweet tomatoes.
the Salad People

How Sweet It Is!

Inside Dignus

SHARE in Dallas

Dignus Booth #316

Success Story

ASIC
Down Under

Diglets

Legacy nuggets

The advent of the new z/Architecture from IBM has significantly improved the mainframe shop's ability to consolidate many of their different servers into one healthy z/Series mainframe, each server mapping to an individual partition and all instances sharing the same physical space. This combination is proven to result in a more secure and higher performance environment because the many network connections are gone, with the combined servers taking advantage of high-speed bus technology as well as better utilization of the multiple processor z/Series configuration. There is also the issue of managing central storage which has grown dramatically and can now be centrally backed up. The image afforded to this more accepted approach can only bring more credibility to the data center and its talented staff.
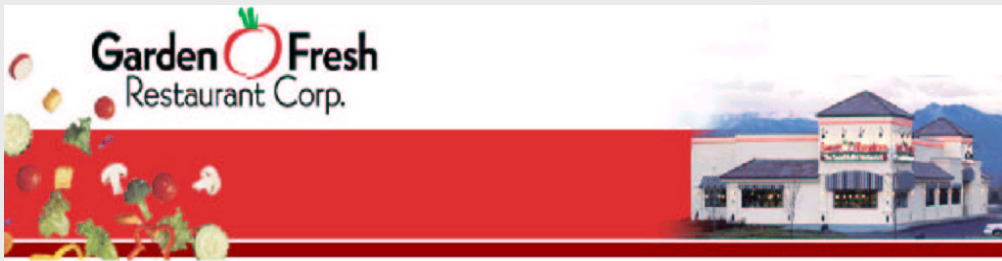
Winners Circle

ASIC
Australian Securities and Investments Commission

**Innovative Systems
Development in Australia**

Winter 2003

Yes, there comes a day when even the Dignus team has to try and trim up the old body. We found the salad buffet to end all salad buffets called "Sweet Tomatoes". Load up on 3 kinds of salad: Caesar, Greek and tossed.

Head down the buffet and add on sprouts, egg, fennel, chickpeas, tomato, and red onions. Select from 12 kinds of dressings and top it off with sesame seeds and croutons. Some diet! Then, search for your table and host. Fortunately, when the salad disappears we can go to the soup bar and fill up on garlic bread, corn bread, pizza squares, baked potatoes, baked sweet potatoes and pasta. What a salad! When you are finished with this portion you can finish off with the ice cream and nuts section. Oh, and don't forget the Jello!

Marketing Dimensions

by Ron Pimblett
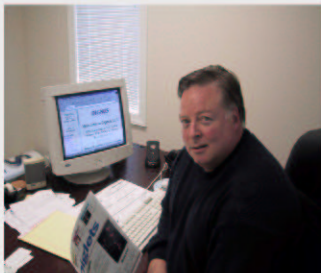
Dignus will attend SHARE in Dallas on February 24 bringing our booth and tremendous bravado. Notables to watch for are Dave Rivers, Mike Arnold, Greg Alexander and yours truly. We will be doing demos and handing out our z/Series Reference Summaries just like at the last show. **Get them while they last at our Booth #316 opposite IBM.** **Also**

Get Dignified at Booth # 316

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SHARE's Keynote Speaker is John Patrick, President of Attitude, LLC and former Vice President of Internet technology at IBM. During his 35-year career at IBM, Mr. Patrick helped start IBM's leasing business at IBM Credit Corporation and was the senior marketing executive in charge for the launch of the IBM ThinkPad brand. Since the early 90s, he has dedicated his time to fostering Internet technologies and has become one of the leading Internet gurus.

SHARE has a **Special Program Event - Getting to z/OS 1.4** which should be very interesting for those companies moving to z/Architecture platforms this year.

Happy New Year to everyone!

At the start of a new year, it's typical to consider things that might need improvement, but, I'd like to reflect a moment on what we have accomplished in 2002.

- Delivered a true ANSI 98 C++ compiler and standard libraries for the mainframe (both z/OS and Linux.)
- Produced the world's first complete C/C++ for 64-bit z/OS and 64-bit Linux.
- Added support for MVS 3.8 programming.
- Provided a new CICS preprocessor.
- Created a new HLASM DSECT to C structure converter.

We now have more people using Dignus' products than ever before!   I'd like to thank everyone for their continued support of the leading-edge mainframe programming tools.

Success Story

ASIC
Australian Securities and Investments Commission

The Australian Securities and Investments Commission (ASIC) is an independent Commonwealth government body established by the Australian Securities and Investments Commission Act 1989. It began on 1 January 1991 as the Australian Securities Commission, to administer the Corporations Law. It replaced the National Companies and Securities Commission (NCSC) and the Corporate Affairs offices of the States and Territories. In July 1998 it received new consumer protection responsibilities and its current name.

ASIC wished to replace the CORBA components in its Unix eBusiness and Lotus Notes workflow applications with MQ that would allow for robust, asynchronous messages. These applications also communicated with Adabas/Natural applications on a mainframe using RPC calls via a relatively expensive middleware product. Whilst the middleware product was capable of doing the transport job, it did not satisfactorily address message boundary handover and transactional issues between MQ and Adabas/Natural application without building bespoke code to handle failures/replays. ASIC looked at transport alternatives to/from the mainframe applications whereby the Natural application could invoke C/C++ routines to perform TCP/IP socket connections. The Dignus C++ cross-compiler allowed ASIC to develop the routines on a low-cost Unix platform prior to porting them to the mainframe.

ASIC can now successfully send/receive data in its Natural applications via TCP/IP. Additionally, further C++ routines have been developed which allow Natural to manipulate that data as XML in a DOM-like manner allowing seamless XML integration with the eBusiness applications.

Diglets

In the last *Diglets* (Fall 2002) I mentioned the Direct Call facility and the 64-bit extension of that facility. From the response from our customers (and potential customers), it seems there is a fair amount of interest in ways to exploit the new 64-bit architecture. Using the 'align4' function pragma specification, where parameters are expected to be 32-bit, along with the 'AMODE=64' option, any language can call a 64-bit Systems/C (or C++) function without having any knowledge of the new architecture or the AMODE of the called function. An example may be in order:

Let's say we have a COBOL application that wants to retain in memory as many pictures as possible from the Internet, perhaps to see how many unique pictures exist (OK, stay with me). Let's define some functions:

```
int addpic(char * name, char * picture); /* Adds a picture to the repository, with an arbitrary name*/
int comparepic(char * name1, char * name2); /* compares two named pictures */
```

Using the Direct Call facility, these functions can be easily called with COBOL dynamic linking, without knowing the destination AMODE. When the C functions are compiled specifying AMODE=64, heap storage is automatically allocated above the bar. So the exact same C source can be compiled once for z/Architecture and once for non-z/Architecture, producing code that exploits 64-bit for z/Architecture, without requiring 64-bit for the non-z/Architecture case.
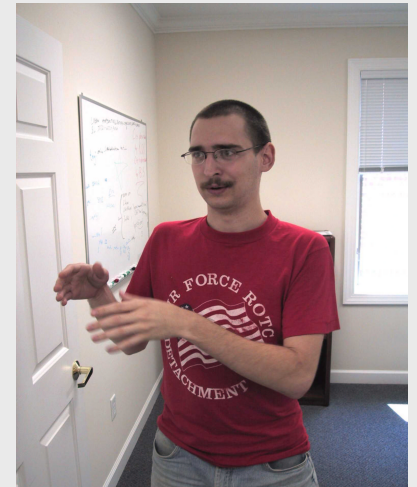
Compiler Lingo

by Greg Alexander

Have you ever found yourself using a tiny function like this?

```
int compute(int x) {
    return x+1;
}
```

You're torn because you know the function call in a high-level language will take longer than the addition. You could always go through and change all calls to compute() into additions, but what if you decide you need to make compute() more complicated? You don't want to go through and change all the additions back into function calls.

Well, beginning with release 1.65, our compilers now will automatically "inline" these functions when -O (optimize) is specified. Previously, you would get code to set up the outgoing parameters, call the function, execute the prologue, unpack the parameters, do the addition, set the return value, then execute the epilogue. Now, it is all replaced with just as little as a single "A" instruction. It doesn't even necessarily disrupt any local variables sitting in registers.

Neat eh?