

# Integration: Has the Dream Come True ?

A D.L.G.L. Position Paper

## 1) THE TASK AT HAND

Let's consider a corporation where the community of users has mandated a department for the procurement of the animals required to assist the users in their four major tasks: moving very large timber logs, cutting specific cows from a group, amusing the kids at the yearly corporate picnic, and fetching the sheep in the field.

## 2) THE BEST OF BREED APPROACH

Under this approach, the department in charge of procurement, focusing on the tasks at hand, will decide to purchase the following:

- ❖ The strongest Elephant available in the market place;
- ❖ The fastest cutting Horse available in the market place;
- ❖ The most amusing, kid friendly Pony available in the market place;
- ❖ The smartest Shepherd Dog available in the market place.

All the tasks at hand will be addressed with the best possible tools. No timber will be left behind because of its size, branding time will be minimal, the yearly picnic will have optimum effect on employee morale, and no sheep will be lost in any canyon.

There are however drawbacks:

- ❖ The procurement department will need to deal with four suppliers;
- ❖ Separate areas will probably be required in the stable;
- ❖ User training will be different;
- ❖ The veterinarian will need to familiarize with four anatomies;
- ❖ The recycling department will have to deal with manure which is not standard.

## 3) THE BEST SPECIES APPROACH (a.k.a. Total Integration)

Using this approach, the focus is on the drawbacks of the previous approach, and four Donkeys will be purchased:

- ❖ Only one supplier will need to be dealt with;
- ❖ There will be no walls required in the stable;
- ❖ All users will be trained to one animal only;
- ❖ The veterinarian will become an absolute expert at Donkeys;
- ❖ The manure will be standard.

## Integration: Has the Dream Come True ?

The administrative problems surrounding the tools have been dealt with efficiently, at least in appearance. The “staff” types of costs have been reduced. But on the “line” side of the equation, where the benefits are generated, the situation is different:

- ❖ The nicest timber is left behind; even the strongest Donkey is not an Elephant;
- ❖ Branding the Cows is taking an inordinate amount of time;
- ❖ The kids are having almost as much fun;
- ❖ The Wolves are having a nightly party with the sheep left behind.

The headaches of the procurement department have been transferred to the users. Fifty employees have found happiness; two thousand are bitching. An expense line-item of 4% of revenue has been minimized; in the meantime 200% of revenue (dealt with once on the income side, and once again on the expense side) is not being optimized.

Also in the meantime, back at the camp, the high-powered individual acting as G.M. of Timber Operations, has purchased an Elephant anyway. He’s still feeding the Donkeys sent by head office, but he’s not using them. And the Chief Shepherd is hiding a few Dogs under “Miscellaneous”, and hiring clowns for the picnic was well appreciated, and the branding problem has been resolved by quadrupling the number of branding teams (a.k.a. the award-winning massively parallel branding technique).

Is this metaphor starting to sound like History?

### 4) THE TRACK RECORD FOR TOTAL INTEGRATION

- ❖ Were not the years 1960 to 1985 the ideal circumstances for Total Integration ?
- ❖ Computers were mystery but to a privileged few.
- ❖ Users did not read PC Magazine and were totally prepared to be grateful for anything.
- ❖ Were not choices reduced between one proprietary environment and the other ?
- ❖ Between one “Totally Integrated Environment” and another ?
- ❖ Were not the vendors of these “Totally Integrated Environments” giant corporations ?
- ❖ Did they not have the wherewithal to deliver on these promises of Total Integration ?
- ❖ Did they not get the full support (and gigantic amounts of money) from all the largest client corporations ?
- ❖ Was not all software not originating from the single hardware supplier being developed internally at each corporation, to fit one O/S, with basically one tool (Cobol), by one department, with one set of standards ?
- ❖ Wasn’t the proposal from these giants “Trust us and we will deliver everything for you?”
- ❖ If Total Integration ever had any chance of success, was it not in that period of time ?
- ❖ Isn’t all of the above what is now being politely referred to as “Legacy Systems?”
- ❖ Aren’t the corporations who have the most closely followed those promising “Total Integration” those facing the most massive replacement needs today ?

## Integration: Has the Dream Come True ?

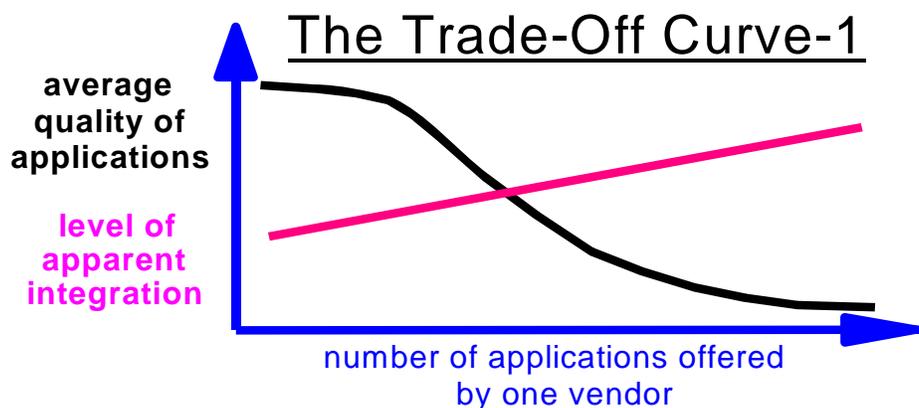
### 5) THE NEW DREAM OF TOTAL INTEGRATION

From the ashes (and sometimes the former executives) of the Total Integration of Hardware, Environment Software and Application Software Dream, the new dream now presented is Total Integration of Applications. One supplier for everything. The first dream has failed. What are the odds for the second one ?

- ❖ Users are now computer literate. They know when a Donkey is painted like an Elephant.
- ❖ Users are more empowered. They will go out and buy a Horse when they need a Horse. The days of unconditional corporate-wide support for one supplier are long gone. There will not be any more easy money.
- ❖ The first dream was killed by the inability of huge corporations spending tens of billions in R&D to compete with the aggregate R&D of thousands of smaller, more efficient organizations, spending each smaller millions on better freer ideas, with more empowerment. They were producing Best of Breed animals that no one could ignore.
- ❖ Aren't the corporations promising Total Integration today massively smaller than those promising it yesterday ?
- ❖ Isn't the scope of what they must deal with massively wider than yesterday ?
- ❖ And isn't the amount of competition that they are facing from single breeders massively greater than it was ?
- ❖ How much strategy and money of a client corporation should be bet on the above odds?
- ❖ and, if against all odds, someone does deliver Total Integration, it will be very few of those proposing it. Will your choice be there ?
- ❖ And no matter what the odds are, is it reasonable to take even the most minute chance of being faced one day with the obligation of replacing all applications at the same time?

### 6) THE TRADE-OFF

As always, all is not black, nor white. Some Integration is required to insure manageability, but the highest average quality of applications is a must for competitiveness, indeed the survival of any corporation.



## Integration: Has the Dream Come True ?

<u>Number of Applications Offered</u>	<u>Quality of Best Application</u>	<u>Quality of Second Best Application</u>	<u>Quality of Third Best Application</u>	<u>Quality of Fourth Best Application</u>	<u>Quality of Fifth Best Application</u>	<u>Etc.</u>	<u>All-Applications Average Quality</u>
1 (Best of Breed)	100	-	-	-	-	-	100
2 (Best Group of 2)	90	80	-	-	-	-	85
3 (Best Group of 3)	80	70	50	-	-	-	66
4 (Best Group of 4)	70	60	40	20	-	-	47
5 (Best Group of 5)	60	50	30	15	15	-	34

Where do you draw the line ?

### 7) SUGGESTIONS OF STRATEGIES IN COMPUTER-RELATED DECISIONS

A - Minimize the stakes.

Don't bet the whole corporation on any single item (group of applications, tool, approach, technology, supplier). Keep room for a mistake, but keep it smaller.

B - Remember in every decision that "The Business is the Purpose".

- ❖ In Technologies, this means that the right choice is the technology for which the most Applications (the final Purpose of it all) R&D activity is happening.

Best of Breed here does not mean necessarily the best technical features according to you. It means the highest level of acceptability for the Applications Developers.

And in this vision, in the category of ... the winners are ...

- ❖ Operating Systems: "Unix and Windows". And you don't have to choose between the two. You can have them both. From the "available applications" view point, you must have the two. Which Unix ? Any Unix. Serious application designers support most major flavors.

At D.L.G.L., we hear corporations with an I.S. staff of 50 people say: "I must have a standard. I can't support more than one Unix flavor". And we hear corporations with 500 I.S. staff say the exact same thing. One of them is mistaken ... maybe both ... This is another illusion of attempts at over-simplification, along with Total Integration of all Applications, Outsourcing, etc.

And there is another reason to have more than one: To keep interest for your business up with hardware manufacturers.

## Integration: Has the Dream Come True ?

- ❖ Databases: “Oracle”. The war is won for the foreseeable future. Applications developers must have an Oracle platform, and the vast majority do. The pressure is so great that some of the major players are even faking it, dumping Indexed Sequential into Relational ..., which doesn't yield very empowered SQL features....

But if one of your users with a most unique need has found a Best of Breed only available under Sybase , no drama required. A staff of 1 I.S. can support both. Another oversimplification trap here: site licensing. Most major DB suppliers offer “application-specific, unlimited users” licensing, run-time or full use, for marginal costs.

And this can go on for all aspects of technologies. The key point is to choose technologies which will yield the greatest choices for the next step which is the only one of importance: selecting the applications which will best serve the Business.

- ❖ In Applications, the “Business is the Purpose” means that you should go where the real business expertise is, and where it has best been crystallized into a product. Don't be surprised if you find expertise where specialization and focus are, by definition in smaller organizations.

This is the Best of Breed approach. But for manageability, you may still need to manage the Trade-Off Curve.

### 8) MANAGING THE TRADE-OFF CURVE (more suggestions)

A - Identify the areas where no trade-off is possible for your corporation:

- ❖ For most corporations, the single largest expense item is people. Although absent from the balance sheet, people are always referred to as “our single most precious asset”. People must be managed with the absolute best tool available. That's how they will enable your corporation to compete, and that's how your corporation will compete to keep their valuable services.

The days of “They're getting paid aren't they?” are gone. The best people will leave if they can't see Career Planning, Training to facilitate it, see Succession Planning to make them available, etc.

This is an area for Best of Breed, no compromises.

- ❖ If you are in the airline business, you need the Best of Breed Fuel Management software.
- ❖ Etc.

## Integration: Has the Dream Come True ?

B - In all other areas, still don't buy somebody's Total Trade-Off Curve.

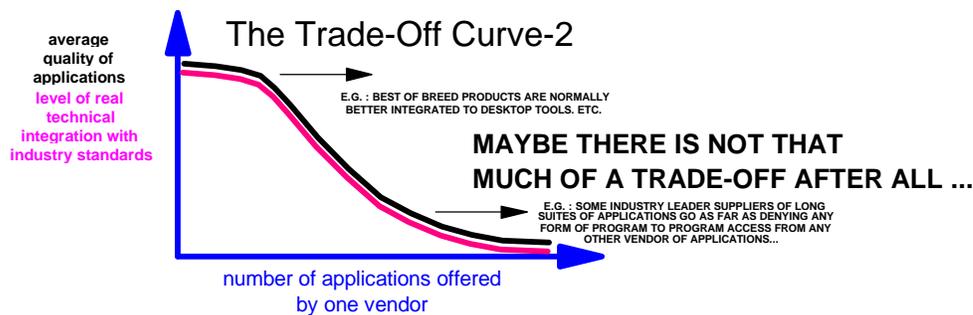
Buy the highest segments in "Best Group of ..." according to a logical break-down which fits your corporation:

- ❖ e.g. Best Group of 2 for G/L and F/S.
- ❖ e.g. Best Group of 3 for Purchasing, Accounts Payable and Inventory Control.
- ❖ e.g. Best Group of 3 for Order Entry, Invoicing and Accounts Receivable.
- ❖ e.g. Best Group of 4 for M.R.P., M.R.P. II, Materials Man., Production P & S.

The smaller the groups, the higher the quality, but the lower the Integration and the higher the requirements for Interface. That's the theory anyway.

### 9) HOW MUCH "REAL" TRADE-OFF IS THERE ANYWAY?

And what if there was no trade-off curve ?



How much integration is really required between your A/R module and your G/L?

You might be better off with a good integration between your specialized A/R and Excel than your G/L. Especially if the price to pay is a cemented A/R declared adequate for all corporations in the world by one software author.

### 10) WHEN TO BUY INTEGRATION RATHER THAN BUILD INTERFACES

When the fact of submitting applications or groups of applications to the limitations of Interfacing deteriorates the quality so much that the total quality is at a point below the average quality of the otherwise available Integrated Applications. A fine example of this can be found in the area of Payroll and Human Resources.

The amount of interfaces between a Payroll module and the twenty or so HR modules which are affected by and affect Payroll is limitless. A single database is mandatory. And there cannot be such a thing as a best of breed Payroll only, because it would be weaker than the Payroll components of a Payroll/HR system. Ditto for the HR components.

## Integration: Has the Dream Come True ?

And conversely, Interfaces should be built when they give access to a total quality which exceeds the otherwise available Integrated Applications.

Within reason, the intrinsic complexity of the Interface as such should not be the only determining factor. It may be worth the effort.

### 11) OTHER TRAPS TO BEWARE OF

- ❖ The overstatement to start with of the need for Integration or Interfaces. If, in absence of Integration or Extensive Interfaces, you are facing double entry for your G/L and your A/P modules, you are probably using your G/L as a sub-ledger. Fix the procedure, not the applications. Then a very simple Interface will do, and you will be able to buy the best G/L and the A/P module that comes with the Serialized Inventory Module that you so dearly need. No compromises.
- ❖ Users must have a single user Interface. Unless you cut your users off from all the desktop tools, or unless you can convince Microsoft to rewrite the Excel front-end, (and Word, and PowerPoint, etc.) to replicate the front-end of your choice of 18 accounting modules, this is not going to happen.

Users have proven beyond any doubt that they are extremely capable of adaptation. They demonstrated that clearly in their mutiny against the first Total Integration dream.

Invariably, this requirement originates with technocrats who are trying to make their own life in support easier; the users are quite willing and more able than the technocrats think of handling different looks on the screen if their business purposes are better handled and a few standards adhered to (such as those proposed under Windows).

- ❖ Opportunity for Vapor Ware. In the Best of Breed approach, the supplier's proposal is: "Please look at this software, it's the best". Little room for vapor.

In the "One Supplier for All" approach, the proposal is: "Don't talk to anybody else on anything". The pressure from the user response: "That's fine, but I also need this, and this..." is huge. The opportunity for vapor is great. "Trust us, we are big, and working on it". Doesn't that sound like the first dream ?

### 12) DOES INTEGRATION HAVE A HOPE?

Integration has more than a hope. It has a reality.

But that reality is not in the triumph of any one application developer.

That reality is in the community of all applications developers agreeing on sets of standards that they impose amongst themselves and include in their products.

## Integration: Has the Dream Come True ?

Certain areas, such as SQL compliance, are now quite clear and firm. Other areas such as Workflow are still in their infancy, and have yet to produce even an industry leader, let alone any industry standard.

Great strides have been taken in the last few years, and the process is accelerating under the increasing pressure of the community of client corporations.

The computer industry is merely 30 years old commercially. It attracts the finest brains. It has delivered in those short 30 years more than any other industry in the history of mankind. It will meet the challenge of Integration. **But through the win-win scenario of standards, not the win-loose scenario of any single supplier.**

### 13) **THE RESIDUAL PROBLEM: DATA DEFINITION**

In the old days of the dream of integration via the hardware supplier, data definition did not have the importance it has today:

- ❖ Development of software was internal at each corporation. The hope was developers were agreeing on data definition (which they were not).
- ❖ A fraction only of corporate data was computerized; this needed to accelerate.
- ❖ Storage costs were so high that much data was made to disappear in the process (the ultimate example being the 19... of the century which created the \$1,000 billion problem for year 2000).

Future ad-hoc access and OLAP (On-Line Analytical Processing) were in Star Trek. All this culminated in the mid 1980's in the birth of Data Architects who invented Corporate Data Models. One for each corporation.

That didn't work because it meant that no applications could be purchased outside the corporation unless it was completely re-done to match the Corporate Data Model, of which the outside software author had no knowledge when the application was written.

Now the proponents of one supplier for everything are proposing the U.W.D.M. (the Ultimate World Data Model). From "one for each corporation" to "one for all corporations". Really? From "you can only develop internally" to "you can only purchase from us."

Both the Internal Development and the One Supplier for All approaches have the same weakness: it is not possible for one internal department or one single supplier to supply the users quickly enough and broadly enough. The consequence is that users, who are still responsible to get the job done, will do their own thing, each managing their own little area of data. Normalization? Adios.

This is how these approaches create exactly the reverse of what they were supposed to achieve: data redundancy, lack of data integrity, and extremely difficult access for ad-hoc and analysis.

## **Integration: Has the Dream Come True ?**

In the area of Payroll/Human Resources/Pension alone, it is not rare to see as many as 20 different data sources to be converted when installing an integrated Payroll/HR/system.

### **14) ELEMENT OF SOLUTION 1: Metadata, Warehousing and O.L.A.P.**

The market is addressing the “access” part of the problem realistically: not all data will come from a single data model; hence, extract, create the metadata (data about the data), warehouse it and supply the tools (such as O.L.A.P.) to look at it.

**This is an organized form of redundancy, without the integrity and access problems.**

### **15) ELEMENT OF SOLUTION 2: Timeliness and Scope.**

The only way to minimize data redundancy is to give the users good applications with enough scope to handle their business, and in a timely fashion.

And, once again, this cannot come from one supplier for everything. The users are demanding Best of Breed to do their business. Giving them Best of Breed or Best Group of ... is the only way to prevent widespread redundancy.

**This is minimized redundancy.**

NOTA: In some areas, giving the users a frozen application (which is often the case with the One Supplier for All approach) is equivalent to not giving them anything. Certain areas require customization, in the absence of which the users will find other ways of addressing their needs, creating unorganized redundancy in the process.

### **16) CREDIBILITY OF POSITION PAPERS...**

D.L.G.L. did not concoct the opinions of this position paper because they perfectly fit its product offering.

D.L.G.L. has its product offering because it had formed these opinions in 25 years of observation and reflection on these subjects, shared with some of the best minds from its unique clientele. And the market is confirming the validity of it all.