

## A Development Infrastructure for .NET: Why, and Which One to Choose?

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Microsoft® holds more than 50% of the software development tools market. As a result, most organizations opt for Visual Studio® .NET to develop, migrate, integrate and maintain their information systems.

Far from getting simpler, .NET technologies are constantly evolving and becoming increasingly complex, making it more difficult for programmers to keep up, and posing a tough challenge to organizations. There are an estimated ten million .NET programmers around the world, including 400 000 in Canada. Demand for .NET developers outweighs the offer, which causes a serious shortage of competent resources and pushes for higher costs.

Since the launch of the .NET development platform, the productivity of programmers dived 5 to 15 times compared to 4GL languages such as Oracle-Forms, PowerBuilder or SQL Design, which are less flexible but very efficient. Organizations cannot afford to compensate this decrease in productivity with a comparable increase of their development and maintenance budget. This is why an efficient and usable application development infrastructure that boosts productivity becomes an essential element for the development of information systems.

### An infrastructure, yes, but which one?

As responsible systems architects rightly argue, putting in place a development infrastructure to support information system development is crucial today. The development infrastructure anchors the technological architecture and helps implement the various components that will allow organizations to meet their needs and increase their productivity. Developers will have to learn and understand this infrastructure.

Organizations have three options for the implementation of a development infrastructure:

- Develop their own in-house infrastructure
- Use an infrastructure developed by a consulting firm
- Buy a commercial infrastructure.

The development of an in-house infrastructure has the obvious advantage of being custom-made to the organization. Unfortunately, this solution is very costly. Specialized resources will not only need to develop the infrastructure, but also support, upgrade, and enhance it, and make sure that all developers have access to the appropriate training and user documentation. This approach, which appears like reinventing the wheel, is the least affordable, the least cost effective, the least efficient and the riskiest, from the standpoint of quality, productivity and implementation. It also brings the issue of very specialized development knowledge being held by a small group of insiders.

The use of an infrastructure developed by a consulting firm is close to an in-house solution. This kind of infrastructure has already been implemented and tested in other organizations and shown to be operating well. But it still is not a commercial product, documented, supported and promoted as such. Often, the consulting firm has developed the infrastructure across its various assignments and offers it to you, or decides to use it as part of a project that you asked them to realize. Inevitably, the consulting firm becomes closely entangled with your infrastructure, on which they have a hold. For this reason, the firm is less prone to open the infrastructure to potential competitors. Furthermore, issues of quality and productivity arise. The use of productivity tools reduces the extent of resource provision projects: the consulting firm must then balance its own interests vs. those of its clients. Significant productivity gains cannot be expected from that standpoint.

The acquisition of a commercial infrastructure offers several advantages. A commercial solution is developed for a large number of organizations, and is thus constantly maintained. The manufacturer invests enormous resources (expertise, time, money) and must therefore make sure that its solution is efficient and usable, that it keeps up with new technologies and that it remains ahead of its competitors. The manufacturer must also offer all the related services that are necessary for the implementation and use of its solution, such as resources for installation, support and training. The solution must still be easy enough to implement and learn so that the customers can become self-sufficient fast.

A commercial infrastructure involves a high level of quality and productivity, and the manufacturer must be able to demonstrate the increase in productivity. The infrastructure must also guarantee a quick and high return on investment. According to Gartner, productivity gains from such an infrastructure can range from 2 to 15.

However, a commercial solution cannot solve perfectly all the needs of a business. Each organization has its own peculiarities, constraints and history. The solution must therefore allow for the integration of other components, tools and technologies. It must also be sufficiently flexible to facilitate the addition of custom functions, yet sufficiently complete to reduce the need for such additions. This versatility reduces the dependence of an organization on a small number of internal or external resources.

## Consyst and its infrastructure: Rep++

Since its foundation 25 years ago, Consyst invested close to 300 person-years in the implementation of its development infrastructure, Rep++. No company can afford to invest this much time and energy to develop its own in-house infrastructure.

Through the use, comments, suggestions and testing from thousands of programmers in hundreds of organizations, Rep++ became over 25 years a key infrastructure: it is mature, stable, powerful, and provides an unequalled level of productivity.

The quality and productivity of Rep++ were again demonstrated recently. Revenu Québec performed a test in the Microsoft .NET development environment that showed a productivity increase of at least ten-fold with Rep++. The test was done by Revenu Québec personnel, who only received a three-hour training session on Rep++.

In addition to this productivity increase, Rep++:

- Enables your programmers to focus on your business needs instead of resolving technology issues.
- Reduces the complexity and learning time of .NET development, so you can better handle the shortage of programmers and expertise.
- Reduces systematically the time (delivery schedule), the development costs, tests and maintenance.
- Increases the quality and functionality of the applications.
- Reinforces your normative framework, standardizes your infrastructure and practices, and allows you to regain in-house control of your applications.
- Facilitates the shuffling of resources and the transfer of knowledge between organizations and between internal resources and those of the consulting firms.

*Don't hesitate to communicate with us to learn more or to plan a presentation and demonstration of our Rep++<sup>®</sup> for .NET solution – [www.consynt.com](http://www.consynt.com) – (514) 849-7431 ext. 501.*