

IT/Software Salaries False Sense of Complacency?

Prepared by PERSONNEL SYSTEMS

It is now the spring of 2003. The large lay-offs in 2001 and 2002 in the technology sector have left employers with their pick of the best talent from a large pool of skilled workers. Better yet, these potential employees are willing to take less in compensation in order to find work. The continuing sluggish economic climate does not show any immediate change in site. Overall salaries are trending downward and employers breathe a sigh of relief that the out of control labour market of 2000 and 2001 is over.

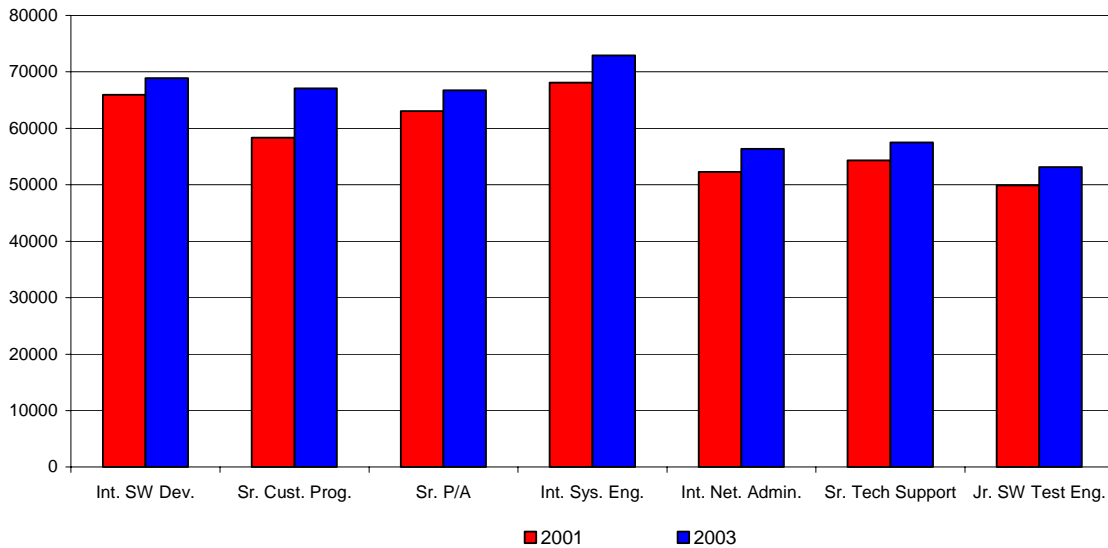
Sound too good to be true? A recent study conducted by PERSONNEL SYSTEMS, in conjunction with the Software Human Resource Council (SHRC), indicates that a more comprehensive and analytical approach is required by employers so as not to be lulled into a misplaced sense of complacency and be caught by surprise as the economy begins to improve.

The economic landscape has undoubtedly changed in Canada since the beginning of the overall technology slowdown in the fall of 2000, and the IT/Software industry has certainly not escaped unscathed. However, it is important to note that the majority of lay-offs did not take place in the IT/software areas. Instead, most took place in the telecom and related products and services sectors¹.

In the late 1990s and through early 2001, IT/Software jobs at all levels were commanding salary increases often in the double-digit range. However, it was already clear by the end of 2001 that the impact of the economic downturn had to some degree begun to be felt in the sector. Although most job streams experienced significantly smaller salary increases during 2001, it is important to note that the salaries of highly technical skilled jobs seemed virtually unaffected. Junior and intermediate level jobs in all streams were hit the hardest during the economic fallout. In an attempt to keep their senior level staff, it appears companies were prepared to continue to compensate these individuals well— in many cases at the expense of their less technically experienced junior staff. Why? Employers fought hard to acquire these highly skilled individuals and such skills are still the future of their organization.

So what is the real story with IT/Software jobs? Are salary levels increasing and by how much? Are all jobs seeing increases or only some? What jobs are expected to continue to receive above normal increases into the foreseeable future?

Salary Growth from October 2001 to April 2003



In general terms, there is a strong correlation between skill-level and level of salary increases. Those jobs requiring high levels of original analytical work (development versus operations or maintenance types of jobs) command higher levels of compensation. The same holds true for more senior/skilled individuals commanding larger increases than more junior resources within the same job grouping. As well, those jobs requiring combinations of skills such as those working in Embedded Software, Application Development, E-Commerce or Security will also draw higher salary levels and higher rates of increase. The key principle at work is that the more senior the skill or the more unique the combination of skills required, the lower the general availability of such skills in the marketplace. The worldwide shortage for some of these skills was well identified prior to the economic slowdown. These shortages have not significantly dissipated - they have merely been masked by general economic conditions. These overall trends are exemplified in the analysis below.

Analysis by Functional Area:

A) Technical:

Software development remains the core foundation of Software/IT jobs. Without question, it is these types of jobs that have shown the most resilience in salary growth since 2001. There has been salary growth of nearly 4-5% nationally across intermediate and senior level Software Developers since October 2001. Although this is far from the double digit increases witnessed in 1999 and 2000, it indicates a trend line that is still running above the general technology industry since 2001 where minimal or no increases have been the norm.

Of particular interest are those jobs in the Customization and Embedded Software areas. These jobs require not only skills in software development but require additional skills in understanding hardware and in the case of Customization, the specific client application. In both cases, actual salary levels are higher than those for Software Developers. The rate of increase is also much steeper indicating that individuals with such skills are still in demand. For example, Customization Programmers salaries have grown by 13-15% since 2001. It is expected that these jobs will continue the current trend into the foreseeable future.

On the other hand, jobs in web development as a whole have experienced negative salary growth since 2001. This is largely due to a simpler technology than software development therefore requiring less well-developed skill sets and a high inflow of graduates from business schools responding to the shortages of the late 1990's. This trend is not expected to change due to an ample supply of skills in the market, with the possible exception of E-Commerce applications.

In terms of regional breakdowns, there is no question that Ottawa leads the way in terms of salary growth in software design & development jobs. Senior Software Developers in Ottawa have seen their salaries grow by 11% since October 2001, from \$79,288 to \$88,018. This is more than double the national average of 5% growth. It is also interesting to note that, contrary to historical relationships, Ottawa has now surpassed Toronto in terms of salary levels for these jobs. The same level of job averaging \$88,018 in Ottawa would average \$82,300 in Toronto.

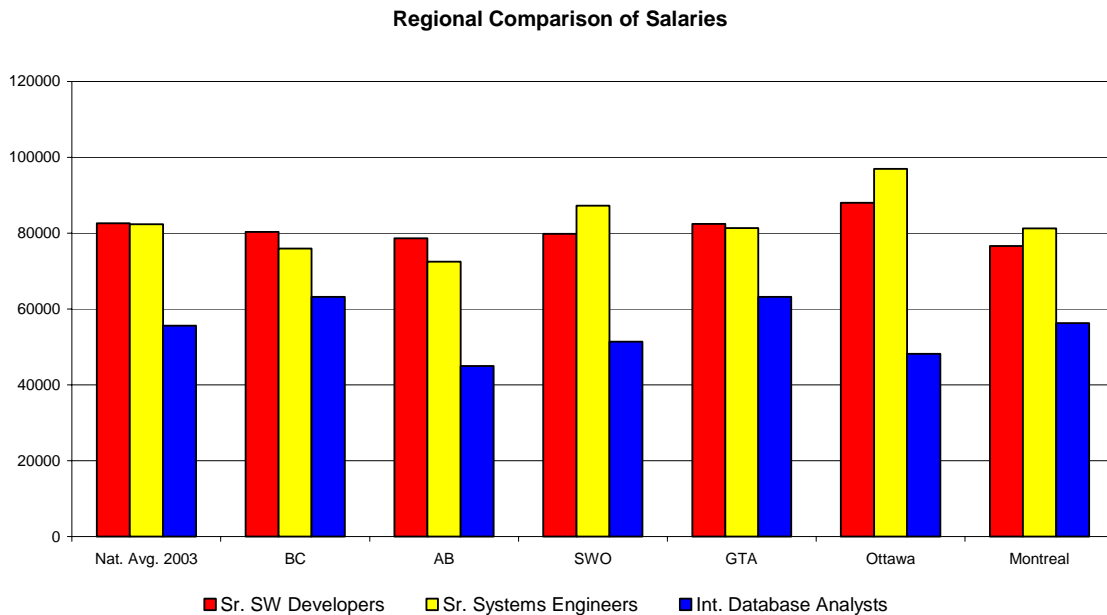
Alberta is quite comparable with Toronto in terms of growth rates for software design & delivery, analysis design, analysis programming and programming jobs, although Toronto would still generally be higher in actual amounts than Alberta. Although somewhat behind both Toronto and Alberta, SW Ontario has also showed modest gains in software application jobs. BC and Montreal are showing the weakest performance in terms of salary gains in this area. It should be noted that the negative salary growth in web development is consistent across all regions of the country.

B) Evaluation:

Similar to the preceding functional area, positions in technical architecture, capacity & performance, and business analysis were enjoying healthy growth in the period 1999 to 2000. However, things have been less vibrant since October 2001 in this area. The exception appears to be in Technical Architecture are where Systems Engineers' salaries have grown between 4% and 9%.

Once more it is Ottawa that leads the way with salary gains in this overall area. Salaries for Systems Engineers have grown by 15-24% in Ottawa – for example, Sr. Systems Engineers salaries have seen growth from \$80,804 to \$96,944 - more than double the

national average in terms of growth. Both Montreal and BC have performed reasonably well in terms of salary gains in this area. Toronto and SW Ontario have shown negative salary growth for Network Managers and Network Specialists, yet they have both displayed the national trend with regard to Systems Engineers as cited above.



C) Integrity:

In the period from 1999 to 2000, this functional area was experiencing strong growth due to the overall hi-tech boom. The increased use of networks, the growing complexity associated with them and the desire to offer remote and wireless network access to an increasingly mobile workforce has apparently fueled the need for those skilled in designing and managing corporate networks. Network Administrators have witnessed salary growth of 6% to 8% nationally.

First level support – Help Desk Analysts – have seen salary levels stay relatively the same since 2001 with a slight downward trend. Again this trend is due to the easy availability of these skills in the market. In contrast, second and third level support jobs such as Technical Support Generalists have seen increases of 5% to 7% during the same time period.

Although Quality Assurance jobs have stayed stable during the period, Test Engineers have received increases of 6% to 10% indicating a continued emphasis on ensuring adherence to established quality standards.

Interestingly, the real bright spot looking forward in this functional section is in the area of security. These jobs have come into their own in the post-9/11 era (2001). Security

Architects and Security Analysts command among the highest salaries in this functional area, nationally receiving \$86,889 and \$72,453 respectively. It appears that as companies continue to upgrade systems and expand infrastructures, they are actively seeking security specialists to secure corporate data, as well as establish and maintain new security standards.

Toronto and B.C. are leading the way with the most positive gains in this overall area since October 2001 – for example, senior Network Administrators in Toronto have gone from \$60,197 to \$65,840, an increase of 9% since October 2001; while in B.C. Sr. Software Test Engineers salaries have increased from \$60,464 to \$65,443, up 8% over the same time period. Both Ottawa and Alberta are generally showing slow but steady industry standard increases. Montreal again shows the weakest performance in this overall area, showing negative growth in many of the key positions.

D) Business:

Salary growth in this functional area has been flat since October 2001. The general economic slowdown has curtailed the level of system and program changes considered by companies. Contrary to the normal trend, junior and intermediate consultant levels are showing increases in the 4% to 6% range while senior jobs are showing negative trending. This is likely an indication that what work is available is being pushed to the lowest possible level of execution to maintain declining revenues. Toronto, Ottawa, and BC are the leaders in level of salaries in this functional area. Montreal, Alberta and SW Ontario are all showing more modest increases.

E) Data:

Database Management and Data Warehousing are considered by many to be among the hottest skills in the Software/IT market. It seems logical that as more companies recognize the value of mining data, demand for database analysts, architects and administrators will intensify. Nevertheless, this has not been the case in the period from October 2001 to the present. For the most part there has been negative growth in this functional area, and this pattern is consistent across all regions. It is difficult to determine if this weaker than expected performance is linked with the lack of momentum caused by the sluggish economy or if such skills are in adequate supply in the market and as such there is no upward pressure on salary levels.

F) Education:

Both training and technical writing show similar patterns – senior resources are showing salary increases of approximately 3% per year, while intermediate and lower level instructors and technical writers are getting salary increase of approximately 2% per year. Similar to above, it is Toronto, Ottawa, and BC leading the way, with Montreal, Alberta and SW Ontario lagging slightly behind.

G) Operations:

This area is by far the weakest performing functional area. It appears that jobs in this area are considered to be easily replaceable with cheaper resources due to higher levels of general unemployment in these jobs. Therefore, computer operator jobs at all levels have shown negative growth rates since October 2001. This general pattern is also consistent in all regions of the country and due to the more than adequate available supply of skills will not likely change in the future.

Patterns and Trends

Based on the analysis of the period between October 2001 and April 2003, it is clear that salaries of IT/Software jobs have indeed been influenced by the economic downturn, but to a much lesser degree than the general technology sector. However, the underlying results show that not all IT/Software jobs, and not all levels of IT/Software jobs, have felt the same impact:

In the areas of software design & delivery, analysis design and analysis programming – jobs like Software Engineers, Application Developers, Embedded Software Developers – saw better salary increases than all other positions. Technical architecture positions also out-performed most other jobs – jobs like Technical Architects and Systems Design Engineers. It should be emphasized that consistently across these functional groups more significant increases are occurring at full working and senior levels. The conclusion is straightforward. Development jobs have remained the core foundation of this industry sector. And those activities requiring higher knowledge levels (engineering or equivalent) are also receiving significantly higher increases than less skilled jobs. This reflects continued shortages of individuals at these highly skilled levels, which runs contrary to beliefs that the market is flooded with all kinds of skilled talent. It also reflects the fact that companies will still pay premium rates to obtain individuals that can ‘hit the road running’ rather than endure the time required to train up less skilled staff. Time is always of the essence, but this appears to be more so during economic slow times.

Not all IT/Software positions did as well as those cited above. Web Developers suffered negative growth in salaries from October 2001 to the present, as did most routine computer operations positions. This was true from managers right down to entry-level workers. In general terms, this appears to be caused by lower technical requirements, higher levels of lay-off during the past few years and as such an abundance of available skills in the market.

And of course, not all regions followed the national trends. Interestingly, it was Ottawa that led the way with the biggest salary increases in the fastest growing positions cited above as well as the highest actual salary levels. Software Engineers & Developers,

Systems Designers, Customization Programmers and Programmer/Analysts in Ottawa all saw double-digit salary growth rates since October 2001. What caused this is a subject of debate – hard hit by the telecommunications and hi-tech slowdown, it could be the result of continued demand in government services firms supplying the federal government. Or it could simply represent the growing strength of software companies in Ottawa and their demand to attract and retain top-level individuals. Or perhaps less flattering, it could represent continued over-compensation caused by a skewing of salaries by a few large companies, who despite their lay-offs, continue to exert a strong influence on perceived market salary levels in Ottawa.

Conclusion

The widespread double-digit salary increases reported between 1999 and 2000 seem to be a thing of the past. Organizations have had to learn to operate in an environment where there are fewer sales, lower venture capital dollars, and drops in stock market value resulting in smaller salary budgets. However, employers should not be lulled into a false sense of security. Skill shortages still exist in many technical areas of the industry and upward pressure on these salary levels will continue to be evident until supply equals overall demand. As such, employers must assess if the current policies of minimal, or no salary increases, will leave them at risk now and as the economy begins to improve.

Source: PERSONNEL SYSTEMS' *compINSIGHT*[®] High-technology Compensation Survey and *compINSIGHT*[®] IT Compensation Survey. www.compinsight.com

¹ – *Optimism Reigns . . . Despite Economic Uncertainty in Technology Sector* (Oct., 2001), Personnel Systems

APPENDIX I

Percentage Growth in Salaries for Select IT/Software Jobs:

Grouping	Functional Area	Job Title	Salary Increases (%)	
			Oct.01 to Apr.03	Oct. 00 to Oct.01
Technical	Software Design & Delivery; Analysis Design; Analysis Programming	Sr. SW Developer	5	11
		Jr. SW Developer	3	2
		Sr. Web Developer	-6	5
		Sr. Customization Programmer	15	-8
		Int. Customization Programmer	13	-9
		Sr. Programmer Analyst	6	-3
Evaluation	Business Analysis; Capacity & Performance; Technical Architecture	Int. Business Consultant	-4	5
		Network Comm. Manager	2	2
		Sr. Systems Design Engineer	9	6
		Jr. Systems Design Engineer	1	1
Business	Informatics Management & Consultancy	IT Manager	-3	4
		Sr. SW Consultant	-2	6
		Jr. SW Consultant	7	2
Operations	Routine Operations	Int. Computer Operator	1	-1
Integrity	Network Support; User/Technical Support; SW Testing	Sr. IT Network Admin.	6	2
		Sr. Technical Support	10	-1
		Jr. Technical Support	6	0
		Int. Help Desk	3	1
		Int. QA Specialist	1	2
		Int. SW Test Engineer	6	2
Data	Database Administration	Int. Database Analyst	-1	-2