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# IT/Software Salaries, Strong Growth in 2005

Prepared by Personnel Systems



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Software Human Resource Council  
Conseil des ressources humaines du logiciel

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A recent study conducted by PERSONNEL SYSTEMS, in conjunction with the Software Human Resource Council (SHRC), indicates that salaries in the IT/Software sector have continued to demonstrate healthy growth between 2003 and December 2005 and are expected to continue to do so in the foreseeable future. As well, anticipated negative impacts on salaries because of domestic and international outsourcing are not evident as yet.

The study is based upon the SHRC Occupational Skills Profile Model (OSPM) and is an update of those conducted in 1999, 2000, 2001 and 2003. Study results are based upon data supplied by approximately 175 companies from across Canada that are regular participants in the compINSIGHT® High-Tech and IT compensation surveys conducted by PERSONNEL SYSTEMS.

The economic landscape has undoubtedly changed in Canada since the beginning of the technology slowdown in the fall of 2000, and the IT/Software industry certainly did not escape unscathed. The frenzied widespread double-digit salary increases reported between in the late 1990's and early 2000 seem to be a thing of the past. However, salary increases in 2003–2005 continue to show strong growth. The average increases across most job

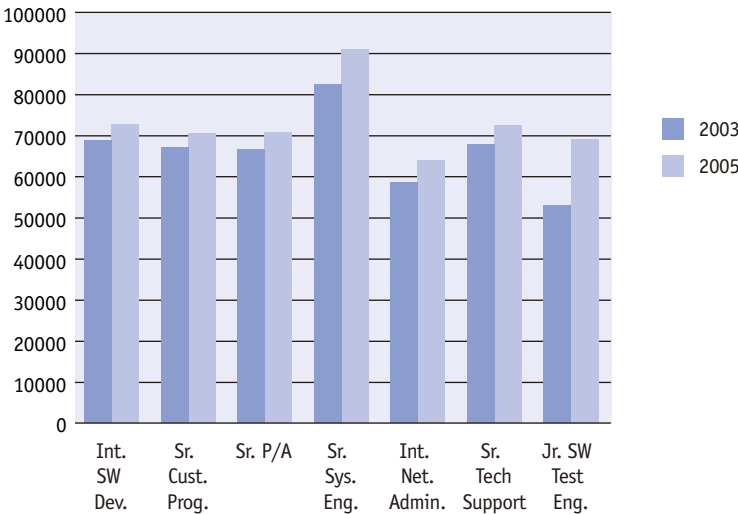
categories during this period are in the 6–8% range—well above the overall average for other sectors.

The double-digit increases in the 1990's were driven by a shortage of skills available in the market and easy access to capital. Worldwide shortages of IT/Software skills were identified. The economic downturn re-distributed which sectors of the industry employ such individuals but the overall number of job opportunities did not significantly change. For example, over the past few years Canada's IT vendor

community shed some 100,000 jobs—and these were taken up by IT “user” firms in various industries across the economy<sup>1</sup>. As such, the demand for IT/Software skills have dissipated somewhat but have not disappeared—they have merely been masked by general economic conditions and hence the continued strong upward pressure on salaries in the sector.

Most job streams experienced smaller salary increases during 2001–2003, however it is important to note that the salaries of senior level highly skilled technical jobs remained virtually unaffected. Junior and intermediate level jobs were hit the hardest. In an attempt to keep their senior level staff, companies were prepared to continue to compensate these individuals well—in many cases at the expense of their less technically experienced junior

## Salary Growth 2003 to 2005



<sup>1</sup> SHRC – Canada's Information Technology Labour Market 2005 – Issues and Options

staff. Why? Employers fought hard to acquire these highly skilled individuals during the boom times and such skills were still the future of their organizations.

In general terms, there continues to be 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 who command larger increases than 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 also draw higher salary levels and salary increases. 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.

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 jobs that showed the most resilience in salary growth during the economic downturn with average increases during the 2001–2003 of 4–5%. This trend has continued in the 2003–2005 period showing average increases of 5.5–6%.

Historically, those jobs in the customization and embedded software areas displayed notably higher salaries than Software Developers. This was because 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. Actual salary levels remain somewhat higher than software developer salaries but the magnitude of increases from one period to the next is now quite similar between the jobs.

In contrast jobs in web development, although no longer showing the negative salary growth of 2001–2003, are showing very minimal increases in the 2003–2005 period of approximately 3.5–4%. This differential is largely due to a less complex technology environment compared to software development thus requiring less well-developed skill sets. In fact, new tools often allow end users to directly develop a final product to the web without any technical intervention. As such, there appears to be a sufficient supply of qualified individuals to meet the demand for web development skills in the market, reducing pressure on salaries. It had been somewhat expected that the upsurge in E-Commerce applications might change this dynamic but it does not seem to have been the case.

Alberta and Montreal have shown the greatest percentage increases in salaries during 2003–2005. However these increases are really just bringing them more in line with other geographic areas compared to their historical lower values.



### B) Evaluation:

Positions in technical architecture, capacity & performance, and business analysis all saw virtually no upward movement in salary levels in the 2001–2003 period. The exception was in the area of Technical Architecture where Systems Engineers' salaries grew by approximately 5%. In contrast, during 2003–2005, all jobs have witnessed modest growth of between 4.5–5%, a bit below the average for the overall sector but again showing forward momentum. This change perhaps signals that business is again willing

and able to undertake new projects compared to 2001–2003 where budgets severely restricted such undertakings.

### **C) Integrity:**

Network support jobs continue their strong growth in salaries. 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 communication networks. Network Administrators have again witnessed salary growth of 6% to 8% nationally in the 2003–2005 period. Some significant geographic differentials are evident and continue the pattern that has been in place for a number of years. For example, a senior Network Administrator in Toronto shows an average salary of \$66,500 whereas Montreal reports an average of \$60,900. Other geographic areas are closer to the national average of \$63,900.

It has been speculated that User/Technical support salaries, at least at the entry level would see salary levels negatively impacted by domestic and international outsourcing. However, this does not seem to be the case. Other than ‘call centers’, which certainly do pay significantly lower salaries than the overall sector, all User/Technical Support jobs have shown a moderate increase in the 2003–2005 period. Even first level support—Help Desk Technicians/Analysts—have finally seen salary levels move upwards in the current period (average 5–6%) after stalling in 2001–2003. As well, second and third level support jobs such as Technical Support Generalists/Specialists have once again seen increases of 5% to 6% in 2003–2005 period. These unexpected salary increases may reflect that domestic outsource centers must still staff from a tight supply market and much of the Canadian industry is still comprised of companies perhaps too small to fully benefit from such outsourcing opportunities.

Quality Assurance jobs are also recovering from their 2001–2003 doldrums and are showing average growth in the 2003–2005 period of approximately 5–6% across all levels. Test Engineers are once again showing somewhat higher averages in the area of 7% while more junior Test Technicians are showing only slight increases of approximately 3–3.5% for the same period.

Interestingly, in the post-9/11 and on-line commerce era, security jobs were predicted to become fast rising stars due to limited specialist skills. While it is true that companies continue to upgrade systems, expand infrastructures and actively seek security specialists to secure corporate data and establish/maintain new security standards, salary levels have not outstripped other job categories. Specialists in this area are commanding similar levels of salary as senior software development jobs with no additional premium for the area of specialty.

### **D) Business:**

The Business Group includes job streams such as Informatics Consultancy and Software Applications Development. Base salary growth in this functional area has been flat for some time and showed very little growth in the 2001–2003 period. The general economic slowdown curtailed the level of system and program changes considered by companies during this period.

2003–2005 shows moderate to strong growth in these job categories averaging in the 6-7% range with senior levels indicating salary growth higher than the average. Both B.C. and Toronto also show higher than average increases across all categories. However, care should be taken when assessing what has taken place with consultancy jobs.



Total compensation has increased for senior jobs at a much more significant pace, but with more emphasis on variable compensation than perhaps in the past.

**E) Data:**

Database Management and Data Warehousing have been forecast to be among the hottest skills in the Software/IT market for several years. It seems logical that as more companies recognize the value of mining data, demand for database analysts, architects and administrators would intensify. Nevertheless, this premise had not been supported by increases in salary levels over the years until recently. Most jobs in this category are showing average increases of 7–8% for the 2003–2005 period, irrespective of geographic area.

**F) Education:**

Technical documentation and writing showed very modest increases in salaries in the 2001–2003 timeframe of approximately 2–3%. The period of 2003–2005 has shown more than a doubling of this rate with average increases of 6 to 7%. Montreal, Ontario and B.C. show greater than average increases for these jobs.

Training on the other hand has for the first time shown very different levels of salary increase depending upon the level. Senior levels showed very healthy increases for the 2003–2005 period across all geographic areas—approximately 10–12% with Toronto and Ottawa leading the way. Many organizations kept their senior level training staff during the downturn and continued to compensate them well. Conversely they chose to release their management and junior training staff as cost-cutting measures and it does not appear that they are yet hiring back these levels. As a result,

salary levels for managerial and junior training levels continues to show a very flat salary growth curve with some geographic areas such as Toronto actually reporting a decline in salaries—they are rehiring at lower salary levels than in 2003.

**G) Operations:**

Again, Systems Programming was an area anticipated to show negative salary growth due to the perceived ability to outsource this activity either domestically or internationally. Again, this has not been the case. All levels of Programmers and Programmer/Analysts have shown moderate growth during the period of approximately 5-6%.

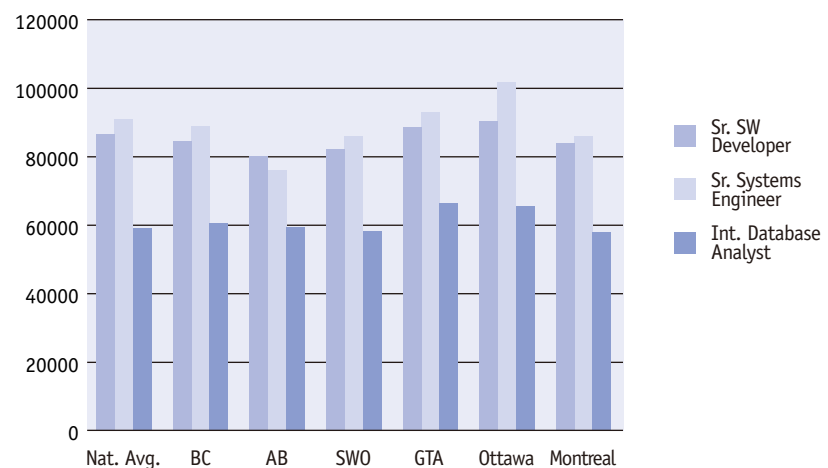
Routine computer operations job categories were the hardest hit in the downturn from 2001 to 2003, all indicating negative salary growth during the period. These job categories were considered to be easily replaceable with cheaper resources due to high levels of unemployment for such skills. Salary levels have rebounded significantly in the 2003 to 2005 period, bringing average salary levels back in

line with those provided in 2001 or just slightly above. This general pattern is also consistent in all regions of the country.

**Geographic Trends**

Traditionally, Toronto has paid higher actual salaries across all job categories. This placement as the highest payer of all geographic regions is primarily due to the higher cost of living in the Toronto area relative to other areas. However, beginning with the technology boom and continuing to be the situation, Ottawa has often challenged the Toronto salaries and in some cases paid at a higher rate, irrespective of a lower cost of living. Market salaries in Ottawa were heavily influenced by a very few large technology players (i.e. Nortel, JDS, etc.) that dominated the salary market. Despite the change in the local market, salary rates have only nominally slipped compared to Toronto. Most employers did not lower salaries of employees during the downturn and many did not scale back their annual adjustments to reflect the new market. As such, the

**Regional Comparisons**



salaries remain higher than would be expected compared to other geographic areas.

Overall, B.C. and Alberta have shown the highest magnitude of increases during the 2003–2005 period. These increases reflect the general level of economic activity in the regions along with shortages of skills and rising costs of living.

Historically, Montreal and the Atlantic provinces lag other geographic areas in terms of the level of actual salaries. They are able to do so because their cost of living is still somewhat lower than other major geographic areas. However, there is some sign that the gap is beginning to narrow somewhat with other areas with companies in these areas indicating higher than national average increases during the 2003–2005 period.

## Summary

Based on the analysis of the period of 2003–2005, it is clear that salaries of IT/Software jobs for the most part continue to generate salary increases greater than those of other sectors. On-going skill shortages, although not as prevalent as in the late 1990's, still continue to drive the larger magnitude salary increases.

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.

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 not only the continued shortages of individuals at these highly skilled levels, but also the fact that companies continue to pay premium rates to obtain individuals that can 'hit the road running' rather than undertake the time required to train up less skilled staff.

As well, the expected negative salary impact on jobs because of domestic and international outsourcing is not as yet evident. This area will need to be monitored carefully in the future to assess what impact these developments might have.



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

# Appendix 1

## Percentage Growth in Salaries for Select IT/Software Jobs:

Grouping	Functional Area	Job Title	Salary Increases (%)		
			2003 to 2005	2001 to 2003	2000 to 2001
Technical	Software Design & Delivery; Analysis Design; Analysis Programming	Sr. SW Developer	5	5	11
		Jr. SW Developer	8	3	2
		Sr. Web Developer	3	-6	5
		Sr. Customization Programmer	5	15	-8
		Int. Customization Programmer	6	13	-9
		Sr. Programmer Analyst	6	6	-3
Evaluation	Business Analysis; Capacity & Performance; Technical Architecture	Int. Business Consultant	5	-4	5
		Network Comm. Manager	5	2	2
		Sr. Systems Design Engineer	10	9	6
		Jr. Systems Design Engineer	5	1	1
Business	Informatics Management & Consultancy	IT Manager	6	-3	4
		Sr. SW Consultant	12	-2	6
		Jr. SW Consultant	4	7	2
Operations	Routine Operations	Int. Computer Operator	5	1	-1
Integrity	Network Support; User/Technical Support; SW Testing	Sr. IT Network Admin.	9	6	2
		Sr. Technical Support	7	10	-1
		Jr. Technical Support	5	6	0
		Int. Help Desk	7	3	1
		Int. QA Specialist	6	1	2
		Int. SW Test Engineer	7	6	2
Data	Database Administration	Int. Database Analyst	6	-1	-2

The Software Human Resource Council is a non-profit sector council that works for IT (informatics) professionals throughout Canada. SHRC addresses human resource needs related to IT employment in Canada by working with partners from industry, government and education.

Our programs and projects focus on:

- Labour market intelligence
- Skills definition and development (including the Occupational Skills Profile Model)
- Career awareness
- Career development

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