
2014 IT Professional Salary Survey and Job Descriptions

All IT Positions

xQ 2014 Canadian data edition

(Data collected through XXXXX, 2014)

**The compensation data in this report
is updated four times per year:**

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October 6, 2014

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Methodology and Use of Foote Partners' 2014 IT Insider IT Professional Compensation Reports

How does Foote Partners collect IT compensation data?

Rapidly evolving information technology jobs are often so unique in the universe of business employment that using passive surveying methods to obtain compensation benchmark data can yield extremely inaccurate results. That's because of the common (and dreaded) problem of lack of standardization in IT job titles and what IT professionals actually do on-the-job.

These days it is not uncommon to find specialists with .NET, Java, Python, Ruby on Rails, SAP/ABAP, and dozens of other programming language skills all with generic "Programmer" or "Developer" titles. Or Linux, Unix, and NT administrators lumped together under a single "Systems Administrator". The problem is that some skills are worth more in the marketplace than others so doing simple job title matches to industry salary surveys often results in underpaying or overpaying IT professionals.

The job title mismatch dilemma is an epidemic widely acknowledged by HR compensation professionals and IT salary surveyors alike. It affects more than half of all employed IT workers by even the most conservative estimates from HR departments. Making the situation worse is that compensation surveys from the largest HR consulting firms, including Towers Watson, Mercer, Hewitt/AON and others, don't offer a solution via their off-the-shelf products. Employers must contract with them for expensive custom survey consulting.

Our solution more than seventeen years ago was to create a new methodology that produced the first salary surveys in North America to define and accurately benchmark "new breed" IT positions and job families in Web/I-net, e-Commerce, Data Warehousing/Business Intelligence, Unix and NT, Business Technology (1994 to 1995) and Information Security, SAP and other enterprise software applications (1997, 1998).

The best part about our unique methodology is that it corrects for job title/job content mismatches by classifying surveyed participants according to what they do on-the-job and assigning to them our standardized job titles before their pay data is loaded into our survey data compilation engine. Then you just need to match your people to our job descriptions to get the most accurate market benchmark available today.

It's a labor-intensive and expensive way to achieve truly accurate and validated compensation benchmarking, and it requires a deep grounding in technology and the nuances of IT professional employment. In addition to that unique grounding, Foote Partners uses its unprecedented access to 196,888 IT workers in 2,648 public and private sector employers to overcome the many obstacles to accurate tracking of IT compensation and workforce issues. Overall, our methodology produces **better data screening and cleansing, superior statistical reliability and validity, and** constantly refreshed and consistent 'real world' salary and tech skills pay data. *No other IT compensation survey research firm today publishes off-the-shelf surveys that use these IT job title alignment methods.*

Methodology and Use, cont.

IT infrastructure positions originally formed the strong foundation for our research, however Foote Partners' competitive distinction has long been its focus on critical new strategic and tactical **IT-business hybrid positions** often unreported (or under-reported) in other IT surveys. Findings are updated continuously and published every three months (but weekly to our retainer accounts), aided by our constant flow of confidential IT compensation data from North American public and private sector employer HR departments and IT, HR, and business executives research partners.

Our relationships with our research partners have been forged over many years: developed from among the clients, colleagues, and associates of our senior research team of former McKinsey & Company, Towers Watson, Gartner and META Group consultants and analysts. We have access not only to their IT compensation databases but to management and rank-and-file workers, which facilitates the matching of job content with comparable job titles that enables the extraordinary accuracy and reliability of our surveys.

We survey salaries and skills pay job-by-job, city-by-city: 161 positions, 83 cities in the United States and Canada. There are no geographic multipliers used in our research, no cost-of-living coefficients. Ours is constantly refreshed 'real world' salary and skills pay data.

Research participant metrics

IT compensation data for our latest 2014 research findings (collected through **October 1, 2014**) represents more than 40 private sector industries plus government and educational institutions surveyed every three months. The size of the participating organizations, measured most appropriately for the type of business, by revenues, assets, total premiums and operating budgets, are as follows

- 18% of participating organizations have \$3 billion+ in sales/\$15+ billion in total assets
- 28% of participating organizations earn more than \$1 billion in annual revenues or more than \$3 billion in total assets
- 46% of participating organizations have \$500+ million in sales/\$1+ billion in total assets/\$500+ million in premiums/\$500+ million operating budget (government, educational, not-for-profit)
- 54% of participating organizations fall in the SMB (small-to-medium sized business) segment, generally defined as organization under \$500 million in sales.
- [Public sector] 5% have operating budgets of \$500 million or more, [nonprofit/educational sectors] 4% with operating budgets \$100 million to less than \$500million

Methodology and Use, cont.

Industry Pay Differentials

In each target city or labor market, Footo Partners surveys those employers that have a significant influence on local employment. The most frequent industries surveyed appear in the table below.

Footo Partners standard salary survey reports include detailed long form job descriptions and salaries, by job title, for up to 83 cities or metro areas. Within job titles we do not report salaries by industry, but instead across all industries. Customers may make adjustments for specific industries by using our *industry multipliers*. We calculate industry multipliers for this purpose twice annually, by taking all survey salary data and computing relative values by industry (1.00 = average of all industries).

Compensation data in this report may be adjusted by applying the appropriate multipliers shown below, however be advised that individual jobs may not necessarily behave like other jobs within any given industry.

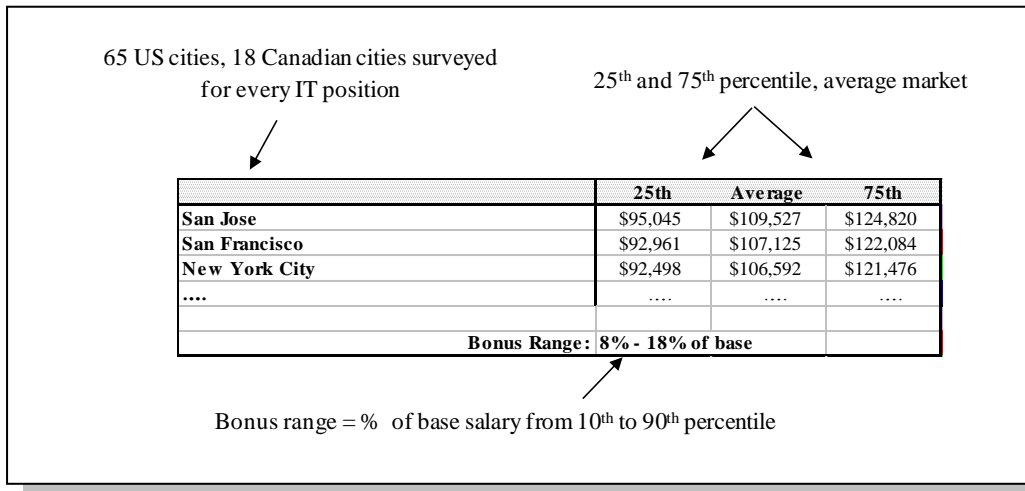
Industry Salary Adjustments for FP Base Salary Data – 2014

| Factor | Industry | Industry |
|-------------|---|--|
| 1.00 | AVERAGE - ALL INDUSTRIES | |
| 1.29 | Securities/Investments | 1.03 Logistics/Transportation |
| 1.21 | ASP/ISP | 1.03 Aerospace |
| 1.20 | Diversified Systems Integrators/IT Services | 1.02 Banking |
| 1.16 | Software/Services | 1.01 Real Estate |
| 1.15 | Energy/Mining | 1.00 Manufacturing/computer-related |
| 1.15 | Research and Development | 0.99 Distribution |
| 1.14 | Business Services/For Profit | 0.99 Household/Personal Products |
| 1.14 | Biotech/Biomedical/Pharmaceutical | 0.98 Hospitality/Leisure |
| 1.10 | Electronics | 0.97 Healthcare Services |
| 1.10 | Diversified Financial Services | 0.95 Food/Beverage/Tobacco |
| 1.10 | Government(Fed/Defense) | 0.95 Telecommunications/Carrier |
| 1.09 | Telecommunications/Data Services | 0.94 Manufacturing/noncomputer-related |
| 1.09 | Consumer Durable Goods | 0.94 Metals/Natural Resources |
| 1.09 | Media/Publishing | 0.92 Construction/Engineering |
| 1.08 | Entertainment/Recreation/Amusement | 0.91 Motor Vehicles and Equipment |
| 1.05 | Retail/e-commerce | 0.82 Government(Local) |
| 1.05 | Insurance | 0.79 Government(State) |
| 1.04 | Petrochemicals | 0.77 Not-for-profit |
| 1.03 | Utilities | 0.71 Education |

Methodology and Use, cont.

Presentation of Survey Data

Base salary and bonus



Cities and Metropolitan Areas Surveyed – 2014 Research

(This report includes **Canadian cities**)

Canadian Cities

| | | | |
|----------------|------------------|---------------------|---------------|
| Calgary, ALTA | London, ONT | Quebec, QUE | Toronto, ONT |
| Edmonton, ALTA | Mississauga, ONT | Regina, SASK | Vancouver, BC |
| Halifax, NS | Montreal, QUE | Saskatoon, SASK | Windsor, ONT |
| Hamilton, ONT | Oshawa, ONT | St. Catherines, ONT | Winnipeg, MAN |
| Kitchner, ONT | Ottawa, ONT | | |

Tier 1 Cities(U.S.)

| | | | |
|-------------|---------------------------|---------------------|--|
| Atlanta, GA | Houston, TX | New York City, NY | San Jose, CA |
| Boston, MA | Los Angeles/Orange Cty,CA | Philadelphia/So. NJ | Seattle, WA |
| Chicago, IL | Miami, FL | Phoenix, AZ | St. Louis, MO |
| Dallas, TX | Minneapolis, MN | San Diego, CA | Washington, DC |
| Detroit, MI | New Jersey/Northern | San Francisco, CA | Westchester County, NY/ Lower Fairfield Cty, CT |

Tier 2 Cities(U.S.)

| | | | |
|--------------------------|-------------------------------------|---|---------------------------------------|
| Albuquerque/Santa Fe, NM | Greensboro/Winston-Salem, NC | New Orleans | Richmond, VA |
| Austin, TX | Greenville/Spartanburg/Anderson, SC | Norfolk/Virginia Beach/Newport News, VA | Sacramento, CA |
| Baltimore, MD | Hartford, CT | Oakland/Walnut Creek/Concord CA | Salt Lake City, UT |
| Birmingham, AL | Indianapolis/Ft Wayne | Oklahoma City, OK | San Antonio, TX |
| Buffalo, NY | Kansas City, MO | Omaha, NE | Tampa, FL |
| Charlotte, NC | Las Vegas, NV | Orlando, FL | Tulsa |
| Cincinnati, OH | Long Island, NY | Peoria, IL | Upper Fairfield County/ New Haven, CT |
| Cleveland/Akron, OH | Louisville, KY | Pittsburgh, PA | |
| Columbus, OH | Madison, WI | Portland, OR | |
| Colorado Springs, CO | Memphis, TN | Princeton/So. NJ | |
| Dayton, OH | Milwaukee, WI | Providence, RI | |
| Denver, CO | Nashville, TN | Raleigh/Durham, NC | |
| Des Moines, IA | | | |
| Grand Rapids, MI | | | |

2014 IT Professional Salary Survey

Xx Quarter 2014 data

Index of Job Descriptions and Data Tables

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| 242 | Applications Development | 243 261 276 | Business Application Development Java Developers .Net Developers |
| 293 | Architecture, Business Systems Analysis, Business Technology, e-Commerce | 294 344 359 372 | ITArchitecture Business Technology Business Systems Analysts e-Commerce |
| 396 | SAP | 396 | SAP |
| 465 | Help Desk | 465 | Help Desk |
| 483 | Six Sigma | 483 | Six Sigma |
| 498 | Web/Intra/Extranet | 498 | Web/Intra/Extranet |
| 570 | Data Warehousing/ Business Intelligence | 570 | Data Warehousing/Business Intelligence |
| 636 | Lotus Notes/Domino | 636 | Lotus Notes/Domino |

IT Infrastructure Positions

Systems Operations – PAGE 11

- Vice President–Client, Server and Network Computing Systems
- Director–Client and Network Systems
- Manager–NT/Unix/Linux Operation Services
- Sr. Systems Administrator–Transaction Monitors
- Systems Administrator–Transaction Monitors
- PC Desktop Support Technician

Network Operations – PAGE 32

- Director (Sr. Manager) – Network Operations
- Manager–Network Operations
- Sr. Network Administrator (LAN/WAN)
- Network Administrator (LAN/WAN)
- Sr. Network Technician, LAN/WAN Ops
- Network Technician, LAN/WAN Ops

Systems Engineering – PAGE 58

- Director–Systems Engineering (NT/Unix/ Linux)
- Manager–Systems Engineering (NT/Unix/ Linux)
- Sr. Systems Engineer – NT/Unix/Linux
- Systems Engineer – NT/Unix/ Linux

Network Engineering – PAGE 75

- Director — Network Engineering
- Manager — Network Engineering
- Senior Network Engineer
- Network Engineer

Database/Data Administration – PAGE 100

- Senior Database Administrator
- Database Administrator
- Senior Systems Programmer – RDBMS

Database Developers – PAGE 116

- Sr. Database Developer
- Database Developer
- Associate Database Developer

IT Security – PAGE 130

- Director, IT Security
- Manager, IT Security
- Security Architect
- Senior Information Security Analyst
- Information Security Analyst
- Sr. Security Administrator
- Security Administrator

Enterprise Infrastructure Management–PAGE 169

- Vice President (Director) - Enterprise Infrastructure
- Manager, Enterprise Infrastructure
- Sr. Infrastructure Engineer/Integrator
- Infrastructure Engineer/Integrator

Enterprise Messaging – PAGE 188

- Director – Enterprise Messaging Systems
- Sr. Enterprise Messaging Engineer
- Enterprise Messaging Engineer

Storage/SAN Administration – PAGE 208

- Sr. Storage/SAN Administrator
- Storage/SAN Administrator

Voice Engineering – PAGE 221

- Manager, Voice Engineering
- Sr. Voice Engineer
- Voice Engineer
- Associate Voice Engineer

Systems Operations Job Family

- Vice President — Client, Server, and Network Systems
- Director, Client and Network Systems
- Manager, NT/Unix/Linux Operations Services
- Sr. Systems Administrator — Transaction Monitors
- Senior Systems Administrator — Transaction Monitors
- PC Desktop Support Technician

Computing Compensation by Industry

The data in the following section are not industry-specific, but span all industries surveyed in the city or metro area specified. The salaries displayed can be adjusted for any single industry by using the multipliers on page 5, which are computed by Foote Partners analysts from industry segmentation encompassing all 2014 surveyed IT positions.

Network Operations Job Family

- Director (Senior Manager) – Network Operations
- Manager – Network Operations
- Sr. Network Administrator
- Network Administrator
- Sr. Network Technician, Network Operations
- Network Technician, Network Operations

Computing Compensation by Industry

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Systems Engineering Job Family

- Director, Systems Engineering (NT/Unix/Linux)
- Manager, Systems Engineering (NT/Unix/Linux)
- Sr. Systems Engineer – NT/Unix/Linux
- Systems Engineer – NT/Unix/Linux

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Network Engineering Job Family

- Director – Network Engineering
- Manager – Network Engineering
- Senior Network Engineer
- Network Engineer

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Database Administration Job Family

- Senior Database Administrator
- Database Administrator
- Senior Systems Programmer — RDBMS

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Database Developer Job Family

- Sr. Database Developer
- Database Developer
- Associate Database Developer

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IT Security Job Family

- VP/Director, Information Security
- Manager, Information Security
- Security Architect
- Sr. Information Security Analyst
- Information Security Analyst
- Sr. Security Administrator
- Security Administrator

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Enterprise Infrastructure Job Family

- Vice President (Director) - Enterprise Infrastructure
- Manager, Enterprise Infrastructure
- Sr. Infrastructure Engineer/Integrator
- Infrastructure Engineer/Integrator

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Enterprise Messaging Job Family

- VP/Director – Enterprise Messaging Systems
- Sr. Enterprise Messaging Engineer
- Enterprise Messaging Engineer

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Storage/SAN Administration Job Family

- Sr. Storage/SAN Administrator
- Storage/SAN Administrator

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Voice Engineering Job Family

- Manager, Voice Engineering
- Sr. Voice Engineer
- Voice Engineer
- Associate Voice Engineer

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Applications Development Positions

Business Application Development – PAGE 241

- VP(Director), Corporate Applications
- VP(Director), Business Unit Applications
- Manager, Business Applications Development
- Senior Business Applications Developer
- Business Applications Developer

Java Developers – PAGE 259

- Sr. Java Developer
- Java Developer
- AssociateJava Developer

.NET Developers – PAGE 273

- Manager, .NET Development
- Sr. .NET Developer
- .NET Developer
- Associate.NET Developer

Business Application Development Job Family

- VP(Director), Corporate Applications Development
- VP(Director), Business Unit Applications Development
- Manager, Business Application Development
- Senior Business Application Developer
- Business Application Developer

Computing Compensation by Industry

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Java Developer Job Family

- Sr. Java Developer
- Java Developer
- AssociateJava Developer

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.NET Developer Job Family

- Manager, .NET Development
- Sr. .NET Developer
- .NET Developer
- Associate.NET Developer

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Architecture, Business Technology, Business Systems Analysis and e-Commerce Positions

IT Architecture – Page 291

- Director, IT Architecture
- Director, Applications Systems Architecture
- Manager, Applications Systems Architecture
- Sr. Applications Systems Architect
- Applications Systems Architect
- Information Architect
- Sr. Data Architect
- Data Architect
- Enterprise Architect

Business Technology Consultants – Page 341

- VP/Director, Business Technology Consulting
- Senior Business Technology Consultant
- Business Technology Consultant

Business Systems Analysts – Page 356

- Manager, Business Systems Analyst
- Sr. Business Systems Analyst
- Business Systems Analyst
- Associate Business Systems Analyst

e-Commerce/e-Business – Page 369

- VP, e-Commerce
- Director, e-Commerce
- E-Commerce Project Manager/Coordinator
- Sr. E-Commerce Programmer/Analyst
- E-Commerce Programmer/Analyst

IT Architecture Job Family

- Director, IT Architecture
- Director, Applications Systems Architecture
- Manager, Applications Systems Architecture
- Sr. Applications Systems Architect
- Applications Systems Architect
- Information Architect
- Enterprise Architect
- Sr. Data Architect
- Data Architect

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Business Technology Consulting Job Family

- VP/Director, Business Technology Consulting
- Senior Business Technology Consultant
- Business Technology Consultant

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Business Systems Analysts Job Family

- Manager, Business Systems Analysis
- Sr. Business Systems Analyst
- Business Systems Analyst
- Associate Business Systems Analyst

Computing Compensation by Industry

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E-Commerce Base Salaries and Bonus

- Vice President, E-Commerce
- Director, E-Commerce
- E-Commerce Project Manager
- Sr. E-Commerce Programmer
- E-Commerce Programmer

Computing Compensation by Industry

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SAP Base Salaries and Bonus Ranges

- VP/Director, SAP Program Management
- SAP Project Manager
- SAP Master Data Manager
- SAP Design Architect
- SAP Business Analyst
 - Sr. SAP Business Analyst
 - SAP Business Analyst
- SAP Functional Analyst (SME)
- Sr. SAP Configuration Analyst (Lead)
- SAP Configuration Analyst
- Sr. SAP Security Administrator
- BASIS Administrator
 - Sr. BASIS Administrator
 - BASIS Administrator
 - AssociateBASIS Administrator
- ABAP Developer
 - Sr. ABAP Developer
 - ABAP Developer
 - AssociateABAP Developer

Computing Compensation by Industry

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Help Desk Positions

- Help Desk Manager
- Senior Help Desk Specialist
- Help Desk Center Specialist
- Associate Help Desk Center Specialist

Computing Compensation by Industry

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Six Sigma Base Salaries

- Master Black Belt salaries
- Black Belt salaries

Computing Compensation by Industry

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Web/Intra/Extranet Positions

- Director, Web Systems
- Manager, Web Systems
- Web Project Manager
- Web Security Manager
- Web Architect
- Sr. Web Designer/Site Builder
- Web Designer/Site Builder
- Webmaster — Technical
- Sr. Web Engineer
- Web Engineer
- Sr. Web Developer
- Web Developer
- Web Site Administrator
- Web Customer Support Specialist

Computing Compensation by Industry

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Data Warehousing/Business Intelligence Positions

- VP (Director), Data Warehousing/Business Intelligence
- Data Warehouse/BI Project Manager — Processing
- Data Warehouse/BI Project Manager — Decision Support Services
- Data Warehouse/BI Information Security Manager
- Data Warehouse/BI Architect
- Data Warehouse/BI Engineer
- Sr. Data Warehouse/BI Developer
- Data Warehouse/BI Developer
- Data Warehouse/BI Auditor
- Sr. DSS/BI Analyst
- DSS/BI Analyst
- Sr. BI/EIS Analyst
- Sr. DSS/BI Engineer
- Data Warehouse/BI Administrator
- Data Warehouse/BI Management Specialist

Computing Compensation by Industry

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Lotus Notes/Domino Positions

- VP/Director, Notes/Domino Group
- Notes/Domino Project Manager - Server/ Network
- Notes/Domino Project Manager - Client/Customer Support
- Notes/Domino Information Security Manager
- Notes/Domino Architect
- Notes/Domino Engineer - Server/ Network
- Notes/Domino Engineer - Client/Customer Support
- Notes/Domino Developer
- Sr. Notes/Domino Analyst
- Notes/Domino Administrator
- Notes/Domino Quality Assurance Auditor

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**SAMPLE JOB DESCRIPTION
AND
DATA TABLES**

Data Architect

The Data Architect is a person responsible for ensuring that the data assets of an organization are supported by an architecture supporting the organization in achieving its strategic goals. The architecture should cover databases, data integration and the means to get to the data. Usually the data architect achieves his/her goals via setting enterprise data standards.

Responsible for evaluating the use of data and relating data directly to the goals and practices of the company. Establishes consensus and a road map for moving forward to optimize the utility of data from multiple disparate sources. Participates on a team that is defining the overall data policy, standards, and best practices for the enterprise. Working with the Data Quality Manager, the incumbent must ensure the accuracy and accessibility of all important data and he or she is responsible for knowing what data is important and why. Directly responsible for the creation and maintenance of the enterprise data model. Responsible for the documentation of relevant data through the sound use of data modeling techniques and practices as well creating and managing meta-data.

The Data Architect will also assist and oversee the development of data models across the organization to ensure adherence to sound data management principles and where possible, the reuse of data. Helps define and manage master data for the enterprise. Oversees the development of complex data models and logical database design and develops policies, standards and procedures related to the database environment.

Responsibilities

- Develop and drive acceptance of an enterprise view of data and its use across the enterprise. Direct and ensure a common vocabulary and understanding of business entities and relationships between entities,
- Provide thought leadership for definition/maintenance of complex enterprise data models, data dictionaries, and master data management techniques.
- Develop and document data requirements and design specifications in the form of data models, data mappings and data quality metrics. Map out structure and organization of the relevant data for the company or project within the company.
- Participate in identifying and defining business drivers, goals, and information needs.
- Develop, improve, and support enterprise data standards and data architecture policies and procedures. Monitor and enforce compliance of data standards to minimize data redundancies and enhance information quality throughout the organization. Implement and document the company data architecture and data strategy.
- Govern conformance of the use of data in new technology solutions to the enterprise data model and usage policies and standards.
- Deliver conceptual and logical solution designs for specific applications or suites of applications within a conceptual (CSA) and logical (LSA) solution architecture for a set of business requirements that defines how the needs of an entire project/program impact the applications.
- Lead the analysis, design, development & implementation of logical data models; physical database objects; data conversion, integration, and loading processes; query and reporting functions; data management and governance; and data quality assurance processes

- Assists in developing enterprise-level strategies and principles for the integration of enterprise information resources by helping to define standards for data format, quality, and database design. Build and maintain the enterprise information model and ensure linkages to other architecture models and reference architectures
- Assist in maintaining and enhancing the metadata infrastructure (metadata repository, model repository); the data dictionary and business metadata, and facilitate publishing the information to the business and technical communities. Create business rules for the use of data
- Provide support and consulting to project leaders for new projects on data standards, data naming conventions, data sourcing, data feeds and logical database design, to ensure that new applications and data stores integrate with overall enterprise and data architectures. Review and sign off on all project data models.
- Communicate and educate others on the use of sound data management principles. Interact daily with Business Analysts and project teams.
- Work with the data integration groups and process analysts to: obtain and document data flow diagrams (DFD) and data mappings. Advises and guides data modelers in solution delivery teams for modeling standards and best practices. Maintain an inventory of all the "data stores" in the organization
- Understand and employ best practices for relational and multidimensional database design and understands appropriate application for each. Develop and implements plans to oversee the database administration function, and ensures smooth transition to new technology
- Provide source to target ETL requirements and work with ETL Developers to ensure efficient transformation and loading.
- Design, develop, test and implement automated extract, transformation and load routines using tools such as: SQL, PL/SQL, and SSIS. Direct the research and evaluation of new tools and techniques and management and maintenance of related tools and environments.
- Assist in the definition and implementation of system backup, recovery, and support plans. Perform required system maintenance.
- Coordinate and ensure data security administration, backup and recovery planning, capacity planning, performance and tuning
- Undertake complex projects requiring additional specialized technical knowledge. Make well thought out decisions on complex or ambiguous IT architecture issues. Coordinates with users to determine requirements.
- Monitors project schedules
- Ensures that system improvements are successfully implemented and monitored to increase efficiency.
- Acts as a resource for direction, training and guidance for less experienced staff. Conduct internal training on data architecture concepts.
- Lead definition of relevant business data
- Lead projects that are intended to support business decision support requirements. Manage realistic expectations of the customer by prioritization
- Coordinate specific database performance monitoring and tuning tasks including the design of optimization and indexing schemes
- Maintain an advanced understanding of industry application development methodologies, tools and techniques
- Help coordinate with central IT staff to plan, manage, maintain, mature and tune hardware and software environments

Skills and Knowledge

- Applies specialized knowledge of one or more areas of business process, information technology solutions (e.g. OMNI/Peoplesoft/Siebel) and an understanding of data modeling principles and methods to drive technology optimization and architecture recommendations.
- Solid understanding of data modeling techniques to drive technology optimization, data consolidation and technology strategy recommendations.
- Knowledge of enterprise architecture functioning for driving data and information related governance and strategy in the organization and
- Highly skilled in developing data architectures and standards.
- Knowledge of data management, data quality, data management with in-depth expertise of data optimization strategy.
- Demonstrated strong skills: data analysis and profiling; data integration knowledge; database engineering (e.g., DB2 and SQL Server) and design.
- Strong understanding of OLTP and decision support concepts and their implications to data modeling and database design
- Proven analytical skills to properly evaluate and interpret cross-functional data standardization requirements
- Ability to resolve complex issues relate to enterprise wide data architecture concerns
- Ability to architect data management enterprise solutions that are in alignment with strategic technology roadmap and emerging industry trends
- Experience in computer systems validation and software quality assurance highly desirable
- Understands, supports, and follows department standards and methodologies
- Understands and implements security requirements within a heterogeneous database and business environment
- Familiarity with process improvement frameworks such as the SEI CMMI
- Master data hub architecture, data design and implementation
- Metadata management, design and integration
- Data warehouse architecture, data mining, data design and implementation,
- ERP data architecture
- Knowledge of functions and processes of the relevant industry organization.
- Management style that exhibits high energy, strategic thinking, collaboration, direct communication and results orientation
- Effective in matrix management and team building
- Poise, maturity and communication skills necessary to represent the data architecture group internally and externally. Strong presentation, verbal and written communications skills

Experience

- Bachelors or higher-level business degree with mathematics, statistics, Information Management or data analytics focus.
- 8-10 years of previous experience in data base management, including an in-depth knowledge of mainframe, client server, network and workstation technologies, and their interdependence

- 5+ years experience in an IT or quantitative business area with solid demonstrated experience in data architecture, integrating and analyzing disparate data sources, and data quality improvement, preferably in the insurance or financial services industry.
- Experience playing a leadership role in enterprise-wide Data Quality Management, Data Resource Management, Data Stewardship and/or Data Administration programs at a company or similar size.
- Excellent analytical and problem solving skills.
- Strong understanding of SDLC and architectural methodologies and frameworks and their practical application. Has an advanced understanding and vision of the complete lifecycle of database, data warehouse and data mart development
- Hands-on experience with evaluating and implementing data quality metrics on both relational and legacy (flat file) systems. Knowledge of accounting and audit principles, Sarbanes-Oxley and/or the Model Audit Rule a plus.
- Proficient with a data modeling tool(s) (e.g., Computer Associates ERWIN, MS VISIO, IBM Rational Data Architect, IBM M1 tool).
- Experience with many of the following:
 - COBOL
 - COGNOS
 - Data Quality Tools (IBM Quality Stage, Information Analyzer)
 - ETL tools (Informatica PowerCenter, IBM DataStage, etc.)
 - File management and reporting utilities
 - IDMS
 - IGrafX
 - Informatica
 - Metadata Tools (SAG's Rochade and BeCubic, IBM's Metadata Server, Metadata Workbench, Business Glossary)
 - MS Powerpoint, MS Access, MS Excel
 - Oracle
 - RDBMS (Oracle, SQL Server, Teradata)
 - Siebel, OMNI, Peoplesoft, Adabase IBM WCC
 - SQL
 - SQL Developer
 - Sybase
 - Unix
 - XML
- Highly desirable certifications for this position may include the following:
 - Check Point Certified Master Architect (CCMA)
 - Citrix Certified Integration Architect
 - EMC Technology Architect – Expert
 - EMC Technology Architect - Specialist
 - IBM Certified Infrastructure Systems Architect
 - Open Group Certified Architect
 - Open Group Master Architect
 - Microsoft Certified Architect (MCA)
 - Oracle Certified Master, Java EE Enterprise Architect
 - Oracle SOA Infrastructure Implementation Certified Expert
 - Project Management Professional (PMP)
 - Red Hat Certified Architect (RHCA)
 - SNIA Certified Storage Architect
 - TIBCO Certified Architect

- Direct experience in enterprise data warehouse architecture and development is usually desirable.
- Possess a strong sense of customer service and consistently and effectively addresses customer needs
- Ability to facilitate in requirements gathering sessions.
- Has experience with and understands how best to apply agile or iterative development techniques
- Capable of being an individual contributor and working as part of a team.
- Proactive personality with a proven track record of delivering on responsibilities and tasks. Highly adaptive with an ability to organize, coordinate, and execute on details.
- Has the ability to manage large projects and mentor junior team members
- Strong communication skills (verbal and written) with an ability to work in a highly collaborative environment and build successful relationships across the organization. Must be able to articulate the impact of data quality and architecture changes in business terms.
- People/facilitation skills - excellent at expectations management, obtaining buy-in/consensus, negotiating solutions, resolving conflict
- Performs work with minimal supervisory direction
- Demonstrated communication and presentation skills for strategic and optimization recommendations
- Analyze and solve poorly defined or ambiguous problems
- Strong interpersonal and communications skills for interacting with team members and business subject matter experts

Working Relationships

Internal:

- Reports to Director, IT Architecture or equivalent. May supervise senior developers, systems administrators, technical specialists, and business technologists, and manage the performance of consultants and service providers
- Has close working relationship with the architecture team and peers in other areas of IT

External:

- Has regular contact with outside vendors and contractors/consultants for additional support as needed
- Develops relationships with professional organizations, user groups, and industry trade groups to stay current with technology
- Interfaces with vendors on technology and support issues

Data Architect

xQ Quarter - 2014 Base Salary and Bonus Range:

| | 25th | Average | 75th | | | |
|------------------------------------|-------------------------------|---------|------|--|--|--|
| Vancouver, BC | Data has been shielded | | | | | |
| Calgary, ALTA | | | | | | |
| Oshawa, ONT | | | | | | |
| Toronto, ONT | | | | | | |
| Edmonton, ALTA | | | | | | |
| Mississauga, ONT | | | | | | |
| Windsor, ONT | | | | | | |
| Ottawa, ONT | | | | | | |
| St. Catherines, ONT | | | | | | |
| Hamilton, ONT | | | | | | |
| London, ONT | | | | | | |
| Kitchner, ONT | | | | | | |
| Montreal, QUE | | | | | | |
| Regina, SASK | | | | | | |
| Saskatoon, SASK | | | | | | |
| Winnipeg, MB | | | | | | |
| Halifax, NS | | | | | | |
| Quebec City, QUE | | | | | | |
| (all salaries in Canadian dollars) | | | | | | |
| Bonus Range: | | | | | | |

Note: The data in this chart are not industry-specific, but rather span all industries surveyed in the geographical area. The salaries displayed above can be adjusted using the Industry multipliers on page 5, derived from industry segmentation analyses performed in this quarter encompassing all Footo Partners surveyed IT positions.

Sr. E-Commerce Programmer Analyst

The Sr. E-Commerce Programmer Analyst is primarily responsible for the design, architecture, development, and maintenance of e-commerce web sites, including requirements analysis, customizations, database changes, screen changes, security definition and workflow. Converts system requirements into logical program designs, code modules and stable application systems.

The senior level position supervises, mentors and trains a team of technical resources focusing on e-commerce development for a resident software platform (e.g. Oracle ATG). Works with systems managers and engineers, architects, business analysts and quality engineers in a highly collaborative environment to define product features, estimates and deliverables. The senior programmer must be able to create and communicate innovative solutions to business issues and processes leveraging their knowledge of the software platform and is responsible for assigning resources to specific application design and development tasks, defect resolution and production application support.

Sr. E-Commerce Programmer Analysts should be able to produce architecture/design artifacts (i.e. object models, sequence diagrams, technical documentation) to help others understand and adhere to company coding standards. Commonly uses agile methodology where all roles closely collaborate with one another in order to complete each unit of work, and where development is not complete until all unit testing, code reviews, QA verification, and user acceptance have passed for each website segment. Communication skills and interpersonal skills are a must for this position.

As one of the core full time members of the e-commerce development team, e-commerce programmer analysts are expected to provide technical leadership for offshore teams and contracting team resources. While this is not a supervisor role, incumbents are responsible for ensuring code written by external vendor development resources is meeting company architectural standards and design patterns. As such, this individual plays a major role in vendor and project management

Responsibilities

- Responsible for technical development, implementation, administration and support of global web based e-commerce solutions, using leading edge technologies. Participate in the development and deployment of new web based e-commerce applications to support online commerce initiatives, playing a leading role in the design of new/improved interfaces to/from ecommerce sites.
- Develops new applications and functionality including modifying existing website, micro-sites, and application sites for B2B and B2C web portals. Develop and document functional specifications
- Write and review technical specifications as required, meeting the objectives of functional specifications. Specifically, identifying specific interfaces, methods, parameters, procedures or functions as required.
- Provide ecommerce application design leadership for web application development, database design and maintenance, software architecture, software development lifecycle management and application monitoring for the relevant ecommerce platform(s) (e.g. Oracle ATG). Help architect efficient and scalable software solutions for the e-commerce/marketing web platform.

- Responsible for the software release management of web team projects including packaging for deployment and working with Configuration Management for the release of, and integration of released applications into open web projects.
- Convert system requirements into logical program designs, code modules and stable application systems. Develops technical design documents for software solutions independently.
- Provide production support for e-commerce sites including afterhours support when necessary.
- Participate in the full SDLC (Agile), including requirement analysis, design and implementation , estimations and other aspects of iterative development.
- Perform unit, integration, and system level tests and develops any necessary supporting documentation.
- Develop production application support plans, schedules, and assignments as required. Estimate the level of effort related to technical design, coding, and unit testing.
- Report status to development management and project/systems management.
- Develop specification documents outlining technical requirements with associated solutions.
- Provide technical support for maintenance of existing applications.
- Implement SEO and marketing enhancements as identified
- Participate in the evaluation of new technology,
- Manage project development efforts pertaining to supplier partnership agreements
- Collaborates with Enterprise Architects to design flexible, scalable, maintainable solutions; with business analysts to understand and implement complex business functionality; and with Project Management, and Quality Assurance personnel to ensure successful delivery of solutions. Works with Operations and IT teams to help support the releases the website into production.
- Help manage the integration of other company entities into the existing e-commerce base.
- Serve as liaison to outside web designers/developers; serves as facilitator for in-house web development (as needed).
- Ability to clearly write technical specifications.
- Able to effectively communicate across teams and roles.
- Demonstrable ability to work within a highly collaborative team to deliver projects on time, with high quality, and within budget.

Skills and Knowledge

- Technical expertise and knowledge of web/e-commerce applications development.
- Strong knowledge and use of object-oriented methodologies and frameworks and WebService technologies
- Experience with Continuous Integration and automated testing strategies is a strong plus.
- Documentation of web site designs, installations and technical administrative procedures.
- Software development lifecycle methodologies and discipline
- Ability to thrive in an environment where change is constant, adjusting to constantly evolving requirements and assigned tasks
- Ability to maintain professional business relationships and effectively lead, triage, prioritize and resolve issues that arise in unpredicted situations

- Proficiency in a variety of web programming related technologies and tools including:

| | | |
|--------------------------|---------------------------------|----------------------------|
| Agile | JSP, Servlets | Spring MVC framework |
| AJAX | Magic Draw UML | SQL (Oracle and Microsoft) |
| Apache Tomcat | Microsoft Commerce Server | SQL Designer |
| ASP | Microsoft Internet Information | SQL Developer |
| C# | Services | SQL Server Reporting |
| ColdFusion | Microsoft Sharepoint | Services (SSRS) |
| CSS | MS Visio | Star UML |
| Eclipse | .Net languages | Toad |
| HTML5 | Object Orientated design, J2EE | UML diagramming |
| IBM WebSphere | Object Oriented Analysis Oracle | UNIX Shell Script |
| J2EE/Java code | ATG | Visual Basic, |
| JavaFX | Oracle WebLogic | Web forms and XML |
| JAXB | Oracle E-Business Suite | WSDL |
| JBoss Application Server | Rational Rose | XHTML |
| JDBC | Scripting languages | XML |
| JMS | SCRUM | XSD |
| JQuery, Java Script | SEO implementation and tuning | |
| JSON | SOAP/REST | |

- Ability to use a consultative approach to the needs of suppliers and business units while orchestrating and managing project efforts. Ability to interact effectively with internal and external customers.
- Comfortable working across teams, with good organizational skills, ability to work independently, good communication skills, good negotiation skills, and excellent analytical skills. Must be able to operate within and enhance a team environment.
- Good verbal and written communication skills
- Strong problem solving and analytical skills

Experience

- Bachelor's degree in Computer Science or related disciplines, or equivalent work experience.
- 10-12 years IT experience developing and implementing business systems on the Web.
- 6 - 8 years experience with object oriented applications development in a UNIX or Linux environment, including the e-commerce applications and web applications framework(s) relevant for the specific employer. Includes developing and maintaining enterprise quality applications.
- At least 4 years experience in database technologies in a web-based environment
 - Developing web applications that interface to SQL servers and require analysis and understanding of schema design.
 - Proficiency in database development/design tools, such as SQL Developer, Toad, SQL Designer
 - Experience with database design, data modeling and SQL tuning.
 - Experience writing DDL, packages, procedures, functions and triggers for Oracle version 10g or higher

- Minimum 4 years experience in project management, vendor management, solution definition, and design, as well as strong technical project management skills.
- 3-5 years experience mentoring developers and guiding the team toward clear objectives.
- Experience with open source frameworks such as Spring, Hibernate, iBatis.
- Experience with IBM WebSphere, Apache, Tomcat or JBoss Application Servers.
- Experience using design tools to create UML use case, class diagrams, sequence and architecture diagrams (e.g. MS Visio, Rational Rose, Star UML, Magic Draw UML).
- Experience developing web UIs with AJAX, JSON, jQuery and jQuery UI frameworks, etc.
- Experience using application and testing frameworks (e.g. Spring Framework, NET, MOQ, NUnit).
- Experience with engineering tools such as bug tracking and source code control systems
- Experience working in structured SDLC and Project Management environments including Waterfall, Agile, RAD is highly desirable.
- Experience working with distributed, component-based architectures
- Comfortable working across teams and possess good organizational skills.
- Excellent organization skills, with proven analytical, planning, problem solving and decision making skills. Able to work independently and as part of a team with the ability to manage time and resources to meet assigned deadlines.
- Demonstrated leadership, communication and time management skills
- Strong relationship and communication skills both written and verbal with the ability to communicate using non-technical jargon. Solid negotiation skills and excellent analytical skills

Working Relationships

Internal:

- Reports to an e-commerce manager and possible a director in smaller enterprise
- Works directly with all areas in IT, with close working relationship with IT peer group.
- Has regular contact with the user community.

External:

- Has frequent contact with outside vendors, contractors/consultants, and industry trade groups.
- May have interaction with media as technology expert.
- Attends conferences and belongs to professional organizations and user groups.

Sr. E-Commerce Programmer Analyst

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| Hamilton, ONT | | | | | | |
| London, ONT | | | | | | |
| Kitchner, ONT | | | | | | |
| Montreal, QUE | | | | | | |
| Regina, SASK | | | | | | |
| Saskatoon, SASK | | | | | | |
| Winnipeg, MB | | | | | | |
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