

FOR IMMEDIATE RELEASE

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**Skills rule! New research reveals 85 IT skills rose in market value in 2nd quarter,
and nearly two-thirds of them did not require a formal certification**

**Pay for IT certifications rises one again, marking five consecutive quarterly gains after
nearly seven years of steady market value losses.**

What's hot: Agile, Cloud, Architecture, Big Data, Security, Applications Development, and specific
Systems/Networking, SAP, Database, Operating Systems, and Management,
Methodology and Process certified and non certified skills

NOTE: This news release is a summary extract of content in *IT Skills Demand and Pay Trends Report* released this week by Foote Partners. This report is updated every 3 months and contains detailed compensation and demand analyses of data from the firm's *IT Skills and Certifications Pay Index™* and *IT Skills Volatility Index*.

Vero Beach, FL, August 21, 2014 – Extra pay specifically awarded to talented IT professionals for **374 noncertified IT skills** and **337 IT certifications**---also known as 'skills premiums'---increased in the second quarter of 2014 according to a new data update of Foote Partners' *IT Skills and Certifications Pay Index™* (ITSCPI) released in July.

It is the fifth consecutive quarter that both certified and noncertified skills categories have recorded overall average pay gains in the same calendar quarter. For certified skills in particular this has signaled a notable shift in momentum by U.S. and Canadian employers following a long running slump in IT certifications values dating back to 2006. Simultaneous quarterly gains in market values for noncertified and certified skills in the ITSCPI occurred only once in the past five years (in 2010) and only four times since 2000 in the period between late 2004 and early 2006.

Since its launch in 2000, the ITSCPI has continuously tracked market values for individual IT skills and certifications at 2,618 U.S. and Canadian employers and their nearly 164,000 IT professionals, with findings and detailed market analyses updated and published by Foote Partners every three months.

HIGHLIGHTS: IT skills and certifications pay performance, April 2013 to June 2013

374 noncertified skills increased an average of **0.54%** in market value for the 2nd quarter of 2014 from the prior quarter. This is the tenth consecutive calendar quarter of positive growth for noncertified skills pay premiums and the sixteenth gain in the past eighteen quarters. Historically, pay for noncertified IT skills---those skills for which certifications are not attained or in many cases not even available---has performed strongly with **gains in 32 of the previous 39 calendar quarters going back to 2004.**

Quarterly gains from April 1st to July 1st were mixed across eight categories, offset by losses in four categories:

- Operating Systems skills: **+4.6%** (in market value)
- Systems/Networking skills: **+2.2%**
- Database skills: **+0.9%**
- Applications Development skills: **+0.1%**
- SAP & Enterprise Business Applications skills: **-0.6%**
- Web/eCommerce Development: **-0.7%**
- Management/Methodology/Process skills: **-0.9%**
- Messaging and Communications skills: **-7.7%**

Average pay premiums for **337 IT certifications increased** last quarter, **up 0.85% overall**, the fifth consecutive quarter of gains in overall market value following thirteen straight quarterly losses. Newsworthy is that this came one quarter after the highest annual gain in certifications pay in the 15 year history of the **IT Skills and Certifications Pay Index™** in the first quarter of 2014. Contrary to noncertified skills performance trends, average market value for all certifications tracked in the ITSCPI has declined in 24 of the last 30 calendar quarters dating back to 2007.

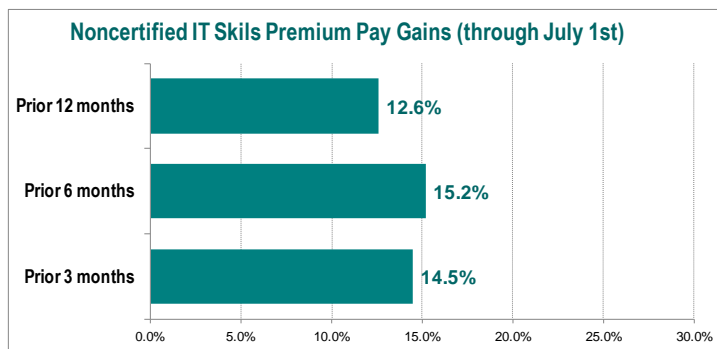
All eight certifications segments in the ITSCPI posted gains last quarter which hasn't occurred since late 2004.

- Networking & Communications certifications: **+3.1%**
- Web Development certifications: **+3.0%**
- Applications Development/Programming Lang. certifications: **+2.4%**
- Systems Administration/Engineering certifications: **+1.3%**
- Architecture/Project Management/Process certifications: **+1.2%**
- Database certifications: **+0.9%**
- Information Security certifications: **+0.6%**

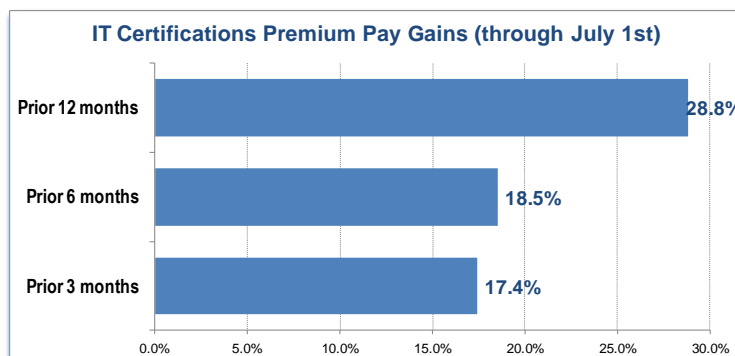
IT SKILLS AND CERTIFICATIONS **GAINERS**: 2nd Quarter 2014

85 of 669 IT skills and certification **gained** in market value. For these 85 gainers:

- Average pay increases: Last 3 months: **+15.4%**
Last 6 months: **+15.8%**
Last 12 months: **+16.8%**
- 53 of 360 **noncertified IT skills** rose in market value. Here's how much they gained on average:



- 32 of 309 **IT certifications** rose in market value. Here's how much they gained on average:



IT Skills and Certifications Pay Trend Highlights: Notable Market Value Gains in 2nd Quarter 2014

Certifications that **gained 10% or more in market value in the calendar quarter ending July 1, 2014** versus prior quarter (by segment).

Listed in **descending order of amount of gain**, including ties:

IT CERTIFICATION Gainers		IT SKILLS(noncertified) Gainers	
<p><u>Architecture, Project Management and Process certifications</u></p> <ul style="list-style-type: none"> - TOGAF 9 Certified - Six Sigma Black Belt 	<p><u>Networking and Communications certifications</u></p> <ul style="list-style-type: none"> - CWNP/Certified Wireless Network Administrator - SolarWinds Certified Professional - Juniper Networks Certified Internet Professional 	<p><u>Applications Development skills</u></p> <ul style="list-style-type: none"> - MATLAB - C++ /CLI - Scrum - UML (unified modeling language) - Cloudera software 	<p><u>SAP/ERP skills</u></p> <ul style="list-style-type: none"> - SAPGTS (Global Trade Services) - SAP BODI (Business Objects Data Integrator) - Web Dynpro - SAP Basis Components - SAP PI (NetWeaver Process Integration) - Oracle E-Business suite - SAP MM (Materials Management) - SAP PP (Production Planning) - SAP LES (Logistics Execution System)
<p><u>Application Development/Programming Languages</u></p> <ul style="list-style-type: none"> - IBM Certified Specialist – Cognos - Oracle Certified Associate, Java SE Programmer - Oracle Certified Professional, PL/SQL Developer - IBM Certified Developer - Cognos - Oracle Certified Professional Java SE Programmer - Oracle Certified Professional, E-Business Suite - JBoss Certified Developer (Seam, Persistence, ESB) 	<p><u>Systems Administration certifications</u></p> <ul style="list-style-type: none"> - Linux Professional Institute certification - CompTIA Linux+ - Microsoft Certified Solutions Associate(all) - RedHat Certified Technician - VMware Certified Advanced Professional - HP/Certified Systems Engineer - Citrix Certified Integration Architect - VMware Certified Design Expert 	<p><u>Database skills</u></p> <ul style="list-style-type: none"> - Couchbase Server - Sybase Adaptive Server Enterprise - Oracle Business Intelligence Enterprise Edition Plus - Riak 	<p><u>Systems/Networking skills</u></p> <ul style="list-style-type: none"> - Cisco ICM - Cloud security - EIGRPF - VMware Server/ESX, ESXi Server - Tivoli - Cisco Nexus - Chef/Opscode - vCloud
<p><u>IT Security certifications</u></p> <ul style="list-style-type: none"> - CWNP Certified Wireless Security Professional - GIAC Systems and Network Auditor - Certified Secure Software Lifecycle Professional - Check Point Certified Security Administrator - GIAC Certified Penetration Tester - EC-Council Computer Hacking Forensic Investigator - GIAC Web Application Penetration Tester - Certified Information Systems Auditor 	<p><u>Web Development</u></p> <ul style="list-style-type: none"> - Oracle Certified Professional, Java EE Web Component Developer 	<p><u>Management, Process & Methodology skills</u></p> <ul style="list-style-type: none"> - E-Procurement - Risk assessment/analysis - Predictive Analytics and Modeling - Social media marketing - ERP 	<p><u>Web/SOA/E-Commerce skills</u></p> <ul style="list-style-type: none"> - Microsoft Internet Security and Acceleration Server - JavaFX - Perl - REST - Apache Solr
		<p><u>Operating Systems skills</u></p> <ul style="list-style-type: none"> - Mac OS X - HPUX F - VMware vSphere - AIX 	

HIGHEST PAYING IT SKILLS - NONCERTIFIED (ranked, all 374 skills surveyed)

These **noncertified IT skills** are among those earning the highest pay premiums (data collected April 1, 2014 through July 1, 2014). **Shown in alphabetical by overall rank in descending order including ties.** **Green/Red** = increased/decreased in market value this quarter. **Amber** = Just made the list this quarter

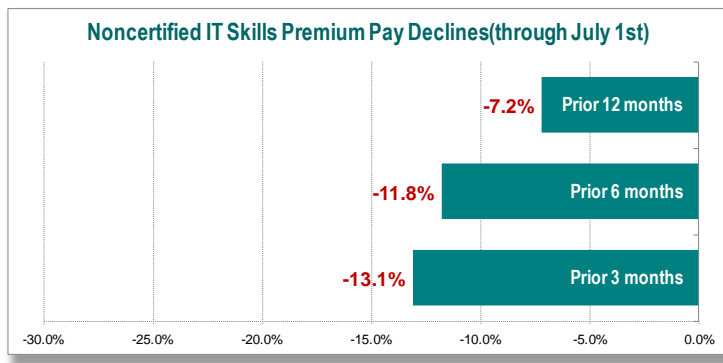
1.	Data Architecture TOGAF (Enterprise Architecture)	6.Tie	Clarity PPM Complex Event Processing/Event Correlation Configuration Management Continuous Integration Hbase IT Governance Mobile applications development Mobile security Product lifecycle management software Quality management/TQM Quantitative Analysis/Regression Analysis SAP MRS Riak SAP IS-U (Utilities) SAP SM Service Management Test Driven Development/Scripting	8.Tie	Apache Flume Cloudera software Couchbase Server Epic Systems applications ITIL V3 Marketo Master Data Management Mobile operating systems MongoDB NetWeaver Portal (SAP EP) Oracle Fusion Oracle Business Intelligence Enterprise Edition Plus SAP APO SAP BODI SAP LES SAP MM SAP Netweaver BW 11 SAP PLM SAP PP SAP PSCD SAP SEM SAP Solution Manager Secure software development SoftwareAG webMethods TIBCO Unified communications/messaging WebSphere MQ (MQSeries)
2. Tie	Big Data analytics Data Governance Predictive Analytics and Modeling Prescriptive Analytics Security architecture and models				
3.Tie	Infrastructure architecture Risk Assessment/Analysis				
4.Tie	Apache Hadoop Business performance management (software/systems) Oracle SCM Security skills (DW/BI, ERP, Web, project assignments)				
5.Tie	Cloud architecture Cybersecurity Data Modelling DevOps Information management MapReduce Oracle Exadata Project management/governance Risk management Six Sigma/Lean Six Sigma User Interface/Experience Design	7.Tie	Business Analysis Business process management/modeling/ improvement Cloud security Data Management F# Sybase Adaptive Server Enterprise CRM Cryptography (encryption, VPN, SSL/TLS, Hybrids) ERP Requirements Engineering/Analysis SAP HANA SAP MDM SAP QM Scala SuccessFactors Test automation User Acceptance Testing		
6.Tie	Apache Cassandra Apache Hive Apache Pig/Pig Latin Business intelligence Capacity Planning/Management Change Management				

Source: [IT Skills and Certifications Pay Index™ – Q2 2014 edition](#)

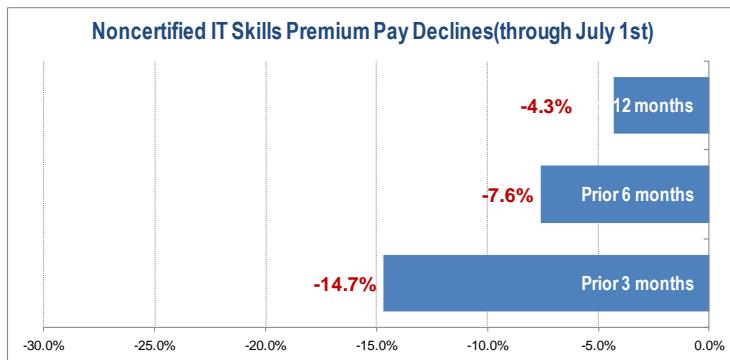
IT SKILLS AND CERTIFICATIONS LOSERS: 2nd Quarter 2014

82 of 669 IT skills and certification **lost** market value. For these 82 losers:

- Average pay declines: Last 3 months: **-13.4%**.
Last 6 months: **-11.0%**.
Last 12 months: **-6.5%**.
- 65 of 360 **noncertified IT skills** declined in market value. Here’s how much they lost on average:



- 17 of 309 **IT certifications** declined in market value. Here’s how much they lost on average:



Noncertified IT Skills Pay Trend Highlights: Notable Market Value Declines in 2nd Quarter 2014

These noncertified skills **declined 10% or more in market value in the calendar quarter ending July 1, 2014** vs. prior quarter (by segment). Listed in **descending order of amount of decline**, including ties:

IT SKILLS (Noncertified) Losers

Applications Development skills

- Visual Basic 6.0
- Visual C++
- Progress 4GL/Development tools
- C
- Oracle Applications Developer Framework
- Business Objects
- Apache Cordova
- Cognos
- SaaS
- Objective-C

Database skills

- Hbase

Messaging & Communications

- TIBCO Enterprise Message Service
- Oracle Communications Messaging Server

Management, Process & Methodology

- IT Governance
- Complex Event Processing/Event Correlation
- Quantitative Analysis/Regression Analysis
- Cybersecurity

SAP & Enterprise Business Applications skills

- Lawson
- SAP AFS (Apparel and Footwear Solutions)
- Remedy
- SAP HCM (SAP HR)
- SAP FI - CA (Contract Accounting)
- SAP SCM (Supply Chain Management)
- SAP ESA (Enterprise Services Architecture)
- SAP ITS (Internet Transaction Server)
- SAP Oil & Gas
- SAP CO-PA (Profitability Analysis)
- SAP BOXI (Business Objects XI)
- SAP FI (Financial Accounting)
- SAP PM (Plant Maintenance)
- SAP ERP Operations (multi-skills)
- SAP Security
- SAP NWDI (NetWeaver Development Infrastructure)

Systems/Networking skills

- Microsoft Virtual Server
- Gigabit Ethernet (1 GigE/10 GigE)
- WAP(Wireless Application Protocol)
- TCP/IP
- Novell Netware
- Cisco IPCC
- Network security management
- WAN 4G/3G services
- LTE
- Cisco UCCE

Web/E-commerce Development skills

- Video/graphics editing
- Microsoft BizTalk Server
- Wikis
- Joomla!
- Microsoft Commerce Server (incl. 2007)
- HTML5
- JavaScript
- Python

Source: [IT Skills and Certifications Pay Index™ – Q2 2014 edition](#)

IT Certifications Pay Trend Highlights: Notable Market Value Declines in 2nd Quarter 2014

Certifications that **declined 10% or more in market value in the calendar quarter ending July 1, 2014** vs. prior quarter (by segment). Listed in descending order of amount of decline, including ties:

IT CERTIFICATIONS Losers

Applications Development/Programming Language certifications

- Oracle Certified Master, Java SE Developer

IT Security certifications

- Systems Security Certified Practitioner
- GIAC Certified Intrusion Analyst

Networking & Communication certifications

- Avaya Certified Solutions Specialist
- SNIA Certified Storage Architect
- Cisco Certified Network Professional
- Cisco Certified Internetwork Expert (CCIE, all variations)

Systems Administration certifications

- HP/Accredited Integration Specialist
- Citrix Certified Enterprise Administrator
- VMware Certified Professional 4/5G
- Citrix Certified Advanced Administrator
- Citrix Certified Enterprise Engineer (CCEE) for Virt.
- Red Hat Certified Engineer

Source: [IT Skills and Certifications Pay Index™ – Q2 2014 edition](#)

HIGHEST PAYING IT CERTIFICATIONS (ranked, all 337 certs surveyed)

Source: [IT Skills and Certifications Pay Index™ – Q2 2014 edition](#)

These **IT certifications** are among those earning the highest pay premiums (data collected April 1, 2014 through July 1, 2014). **Shown in alphabetical by overall rank in descending order including ties.** **Green/Red** = increased/decreased in market value this quarter. **Amber** = Just made the list this quarter

<p>1. Open Group Master Architect Program Management Professional (PgMP)</p>	<p>5 .Tie (cont'd.) EMC Data Science Associate GIAC Certified Forensics Analyst GIAC Secure Software Programmer-- .NET GIAC Secure Software Programmer—Java GIAC Web Application Penetration Tester (GWAPT) HP/Master Accredited Solutions Expert (MASE - all) HP/Master ASE--Data Center and Cloud ArchitectV1 HP Master ASE - Storage Solutions Architect V1 Microsoft Certified Architect VMware Certified Advanced Professional – Cloud Infrastructure Design VMware Certified Design Expert - Cloud (VCDX-Cloud)</p>
<p>2.Tie Certified Secure Software Lifecycle Professional (CSSLP) Cisco Certified Architect EMC Cloud Architect Expert (IT-as-a-Service) Open Group Certified Architect</p>	<p>6.Tie Certificate of Cloud Security Knowledge Certified Computer Examiner Cloudera Certified Developer for Apache Hadoop CWNP/Certified Wireless Network Expert (CWNE) EC-Council Certified Ethical Hacker (CEH) EC-Council Computer Hacking Forensic Investigator GIAC Certified Incident Handler (GCIH) GIAC Certified Penetration Tester GIAC Enterprise Defender (GCED) GIAC Exploit Researcher and Advanced Penetration Tester HP ASE Cloud Architect V2 HP ASE – Cloud Integrator HP/Accredited Solutions Expert (ASE - all) IBM Certified Infrastructure Systems Architect IBM Certified Solution Architect – Cloud Computing Infrastructure V1 InfoSys Security Management Professional (ISSMP/CISSP) Microsoft Certified Solutions Master(all) Oracle Certified Professional MySQL 5 Database Administrator Oracle Certified Professional, MySQL 5 Developer Red Hat Certified Security Specialist (RHCSS) Security Certified Network Architect (SCNA) Teradata 12 Certified Enterprise Architect TOGAF 9 Certified</p>
<p>3.Tie Certified in the Governance of Enterprise IT (CGEIT) GIAC Security Leadership(GSLC) GIAC Systems and Network Auditor (GSNA) InfoSys Security Engineering Professional (ISSEP-CISSP) Oracle Administrator Certified Master - DBA PMI Agile Certified Practitioner (PMI-ACP) Project Management Professional(PMP)</p>	
<p>4.Tie Certified Information Security Manager Certified Information Systems Security Professional Certified in Risk and Information Systems Control (CRISC) CWNP Certified Wireless Security Professional (CWSP) CyberSecurity Forensic Analyst (CSFA) EMC Cloud Architect Specialist (Virtualized Information Infrastructure) GIAC Assessing Wireless Networks GIAC Reverse Engineering Malware HP/Master ASE - Data Center and Cloud Architect V1 InfoSys Security Architecture Professional (ISSAP/CISSP) ITIL Expert Certification Oracle Certified Expert MySQL 5.1 Cluster Database Administrator PMI Risk Management Professional Six Sigma Master Black Belt</p>	
<p>5 .Tie AWS Certified Solutions Architect - Professional (Cloud) Check Point Certified Master Architect Certified Business Analysis Professional (CBAP) Certified Information Systems Auditor Cloudera Certified Professional: Data Scientist</p>	

TRENDS DISCUSSION

A. IT Skills and Certifications Trends

Skills—not jobs—are the obsession in today's IT labor marketplace

At the labor supply and demand level which Foote Partners benchmarks in its [*IT Skills and Certifications Pay Index™*](#) (ITSCPI), [*IT Professional Salary Survey*](#), [*IT Salary+Skills Pay Survey Reports*](#), and analyzes in its quarterly updated [*IT Skills Demand and Pay Trends Report*](#), employers now realize that it's not simply filling jobs in their organizations that will bring them success in their most critical initiatives. They must focus instead on skills, defining which are needed for the work at hand and at what competency level. Because speed is so essential they must next determine the fastest way to acquire them—grow them, rent them, or hire them on either a part time or full time basis. Then they must experiment with effective ways to retain these skills for as long as they're needed. But skills requirements are changing faster than ever in this business climate.

Skills acquisition is a puzzle that must be solved weekly by every IT leader but few have mastered it judging from our firm's ongoing discussions with 500 to 600 high-impact IT leaders at the 2,618 employers from whom we collect and validate the benchmark research for our firm's IT labor market forecasts and analyses.

Labor obstacles and threats are everywhere. For instance, take the much talked about “skills gap”—the widening gap between the supply and demand for labor globally. It's a problem that has persisted for years and yet the amount of attention being given to it today is nothing short of astounding, suggesting an unprecedented severity. How can the paradox exist that nearly 10 million unemployed workers cannot find work when an 4.7 million job openings exist just in the U.S. alone, the most in more than a decade? Is this a lack of skills could it be that employers' expectations are more unreasonable today?

Our observation is that in building their IT workforces employers too often expect new hires to already possess a difficult to find combination of multidimensional skills and experience to be able to “hit the ground running”. Not enough attention is being paid to training over experience, which has contributed dramatically to high unemployment. A 2011 survey by Accenture found that a whopping 79 percent of U.S. workers received no training in their jobs in the prior five years, and the training they did received was most commonly workplace safety.

Foote Partners skills pay research suggests that when employers do discover specific in-demand skills in their workforce and are facing outside threats targeting those skills, they are willing to pay cash premiums for these

hot skills to retain these workers. Also, when hiring, employers will pay the same premiums to differentiate those holding these hot skills from those who do not but share the same job title and are graded and leveled the same. Without using cash premiums the temptation is for employers to offer promotions to their hot skilled workers qualify them for higher pay levels whether or not they qualify for these promotions according to job evaluation and compensation practices already in place. This will destroy the effectiveness of compensation programs in the long run and tends to create morale issues.

Foote Partners forecast for IT skills and certifications demand

IT CERTIFICATIONS. The following is an ***alphabetical list*** of IT certifications that have shown strong growth in pay premiums lately and which we believe are likely to *continue gaining market value over the next 3 to 6 months*. We've grouped them into meaningful categories.

Cloud

AWS Certified Solutions Architect - Associate
 AWS Certified Solutions Architect - Professional
 HP/Master ASE - Data Center and Cloud Architect V1
 VMware Certified Advanced Professional - Cloud Infrastructure Design (VCAP-CID)
 VMware Certified Design Expert - Cloud (VCDX-Cloud)
 VMware Certified Professional-Cloud (VCP-Cloud)

Architecture

Open Group Certified Architect
 Open Group Master Architect
 TOGAF9

Agile

Certified Scrum Master
 Lean SixSigma certification
 PMI Agile Certified Practitioner (PMI-ACP)

Security

Certified Secure Software Lifecycle Professional (CSSLP)
 CyberSecurity Forensic Analyst (CSFA)
 EC-Council Certified Ethical Hacker (CEH)
 EC-Council Computer Hacking Forensic Investigator
 GIAC Certified Penetration Tester (GPEN)
 GIAC Exploit Researcher and Advanced Penetration Tester
 GIAC Systems and Network Auditor (GSNA)
 GIAC Web Application Penetration Tester (GWAPT)

Data

Cloudera Certified Developer for Apache Hadoop
 Cloudera Certified Professional: Data Scientist

Data Center

Cisco Certified Internetwork Expert Data Center
 Cisco Certified Network Professional Data Center

VMware VCP5 Data Center Virtualization

Systems/Networking

Cisco Certified Design Expert (CCDE)
 CWNP/Certified Wireless Network Administrator (CWNA)
 SolarWinds Certified Professional (SCP)

Forecast – cont'd.

NONCERTIFIED IT SKILLS. The following is an **alphabetical list** of noncertified IT skills that have shown strong growth in pay premiums lately and which we believe are likely to *continue gaining market value over the next 3 to 6 months.*

- Agile Programming
- Apache Cassandra
- Apache Hadoop
- Apache Hive
- Apache Tomcat
- Base SAS
- Big Data analytics
- Business performance management (software/systems)
- Capacity Planning/Management
- Chef/Opscode
- Cloud security
- Cloudera software
- Couchbase Server
- CRM
- Cybersecurity
- Data Architecture
- E-Procurement
- HPUX
- JavaFX
- Linux
- Mac OS X
- MapReduce
- MATLAB
- Mobile applications development
- Mobile operating systems
- Mobile security
- MongoDB
- Oracle Exadata
- Oracle HCM
- Oracle SCM
- PHP
- Predictive Analytics and Modeling
- Prescriptive Analytics
- Project management/governance
- REST
- Riak
- Risk assessment/analysis
- Ruby on Rails
- SAP BODI (Business Objects Data Integrator)
- SAP BSP (Business Server Pages)
- SAP GTS (Global Trade Services)
- SAP LES (Logistics Execution System)
- SAP MM (Materials Management)
- SAP PI (NetWeaver Process Integration)
- SAP PP (Production Planning)
- SAP PSCD (Collection and Disbursement)
- Scrum
- Security architecture and models
- Security skills
- Service management
- Six Sigma/Lean Six Sigma
- Software AG webMethods
- SuccessFactors
- TOGAF (Enterprise Architecture)
- User Interface/Experience Design
- VMware Server/ESX, ESXi Server
- VMware Sphere
- Workday

B. Changing Role of IT in the Enterprise

What's changed is not just the widespread acceptance of technology's role as an engine of innovation and competitiveness but the role that is being thrust upon IT organizations and technology professionals everywhere: *monetizing technology* through enabling and sometimes leading in the development of new products and services. Business leaders have known for years that technology, used wisely, can deliver their companies a competitive edge that translates into market share, customer satisfaction, revenues, and profitability. But for years those in the C-suite have been reluctant to hold their IT leaders accountable for such a heavy responsibility. They have instead chosen to hire expensive consulting firms to do what they believed their IT leaders and tech workers could not do beyond their traditional role of technology operations optimization.

Senior business management may still bring in outside help but they now ask their CIOs (and business executives managing large segments of technology talent) to be more accountable for architecting, implementing, and securing new products and services that are largely technology based. These executives are being held accountable for higher levels of information and tech management and their performance more closely scrutinized. Examples include advanced analytics (for making more informed decisions), greater security (for customers whose sensitive information flows across enterprise networks), and capitalizing on fast moving trends such as cloud computing, virtualization, mobile platforms, exponential energy tech, digital engagement, and of course the Internet of Things (and of You, meaning wearable tech). The imperative to streamline operations, reduce costs in every possible manner, and ensure compliance with countless regulation must still be met.

Taken together this has placed tremendous pressure on IT leadership to execute flawlessly and predictably in unfamiliar areas. For many employers this can only be achieved with a dramatic transformation of the IT workforce to a more appropriately skilled group of professionals who are capable of a level of agility, flexibility and aptitude not commonly associated with their predecessors. Companies must be able to *architect their human capital* to meet business needs now and in the future

What is People Architecture?

People architecture is similar in principle to traditional IT architecture initiatives but applied instead to workforce management and IT human capital. There are strategy and capability roadmaps, phase gate blueprints, benchmarks, performance metrics, and stakeholder management. Governance issues need careful attention and business strategy drives it all. But with people architecture it's about how key human capital management (HCM) elements such as job definition and design, skills demand and acquisition, compensation, incentives and recognition, professional development, and work/life balance plug into an overall optimized operational model. The model is tuned to new technologies, business strategy, organizational goals, and culture and performance philosophies, and it promotes flexibility and scalability, like any disciplined architecture approach.

For employers, people architecture can mean improved individual and team performance and more predictable execution, more consistent availability and quality of skills and workers, higher utilization rates, and optimized resource supply/demand management. For IT professionals, it can mean more tangible career paths, more useful feedback on how they fit into the overall IT and business mission, and less confusion about job options. And we hear stories about better morale.

It's not easy but it's necessary. CIOs are having difficulty finding and retaining people that can perform at a high caliber on increasingly more difficult tasks and at the same time they're feeling immense performance pressure. Plus, today the IT workforce today is spread throughout the enterprise doing multidimensional jobs that are hard to categorize, price and manage. In this environment, many IT leaders and business executives have come to see the architecting of people management as the next logical frontier.

One of the problems corrected by people architecture is the lack of job title standardization in the marketplace and too many job titles floating around IT departments. With so many dimensions and variability in IT jobs, employers have gotten lost from an HR perspective. They're unable to cope with the complexity of defining, determining pay, and laying out career paths for all these jobs. For many, serious retention and hiring problems are showing up for the first time. "Work around solutions used for years to cope with systemic weaknesses in their people management systems have stopped working. Recruiters start picking off your best people and candidates are suddenly rejecting offers. Tensions are palpable in the IT workforce and this IT reality is pervasive.

According to David Foote, chief analyst at Foote Partners, "Technical architecture practices have been successful because—when done well—companies achieved an understanding of what they have systems-wise and could then connect it to where they were going and how they were going to get there, all within a process inclusive of all the various stakeholders who shared the risk in the outcome. They helped to clearly define enterprise technology capabilities and give companies more options and flexibility going forward. This is exactly what is needed in managing IT human capital."

"Right now employers desperately need to incorporate in IT human capital management systems and practices the same straightforward, inclusive architecture approach already being used in other areas of their businesses. This can go a long way toward not just lessening staffing shortages but also executing more predictably and being more agile in face of constant uncertainties and the accelerating pace of change. Ultimately this translates into a more effective workforce whether they are full timers or the contingent workforce of part timers, consultants, and contractors."

C. IT Employment Overview

IT job gains in July were well above monthly average for last 12 months

U.S. employment numbers for July 2014 released by the Department of Labor Bureau of Labor Statistics (DOL/BLS) revealed a **net increase of 11,100 IT jobs** across four industry job segments commonly associated with technology professionals. Though fewer than the 16,467 average monthly gain over the prior three months, July's result was well above the 8,967 average monthly IT job growth for the past twelve month and still ahead of the monthly average for calendar year 2013.

Two IT segments that have been responsible for more than 95 percent of all IT jobs added to US payrolls in the past two years recorded only moderate growth in July. **Computer Systems Design/Related Services** added 3,900 new jobs last month, a substantial decrease compared to monthly gains for the first six months of the year that averaged a robust 6,367 new jobs per month. The other segment, **Management and Technical Consulting Services**, also performed poorly compared to recent months, growing by only 2,700 jobs last month, down from 8,200 in June and 6,800 in May. This job segment has averaged 4,900 new jobs per month in the first half of 2014.

The other two job segments relating to IT hiring, **Telecommunications** and **Data Processing, Hosting and Related Services** together posted a net gain of 4,500 new jobs in July (800 and 3,700 respectively). This is substantially higher than the average of 1,450 new jobs per month in 2013 for these segments combined. To underscore this gain even more, in the first six months of 2014 these segments together averaged a *net loss* of 33 jobs per month.

U.S. LABOR DEPT CUMULATIVE NET JOB GAINS/DECLINES: through July 2014									
JOBS SEGMENT	36 mos.	24 mos.	12 mos.	8 mos.	6 mos.	4 mos.	3 mos.	2 mos.	Last Month
	Aug'11 - July'14	Aug'12 - July'14	Aug'13 - July'14	Dec'13 - July'14	Feb'14 - July'14	Apr'14 - July'14	May'14 - July'14	Jun'14 - July'14	July'14
Professional and Technical Services	629,520	433,800	216,300	160,200	151,500	105,700	80,600	55,900	24,900
Segment 5: Management/Technical Consulting Services	174,600	111,000	47,500	36,000	31,500	22,700	17,700	10,900	2,700
Segment 4: Computer Systems Design/Related Services	189,300	124,300	56,300	43,500	37,400	26,300	17,400	10,800	3,900
Information	2,100	9,000	-33,000	-23,000	-11,000	3,000	6,000	11,000	2,000
Segment 4: Telecommunications	-25,300	10,000	-800	1,600	10,100	7,100	4,200	1,000	800
Segment 5: Data Processing/Hosting/Related Services	7,300	7,200	4,600	4,900	2,600	4,400	4,300	5,300	3,700
TOTAL - ALL 4 IT SEGMENTS	345,900	252,500	107,600	86,000	81,600	60,500	56,800	28,000	11,100
IT Services segments	363,900	235,300	103,800	79,500	68,900	49,000	35,100	21,700	6,600
Tech Information segments	-18,000	17,200	3,800	6,500	12,700	11,500	8,500	6,300	4,500

Source: US Department of Labor/Bureau of Labor Statistics.
Data chart and analysis by Foote Partners LLC

IT Skills & Certifications Pay Performance Trend Charts

IT Skills and Certifications Pay Index™ – 2nd quarter 2014 data edition

(Data collected through July 1, 2014)

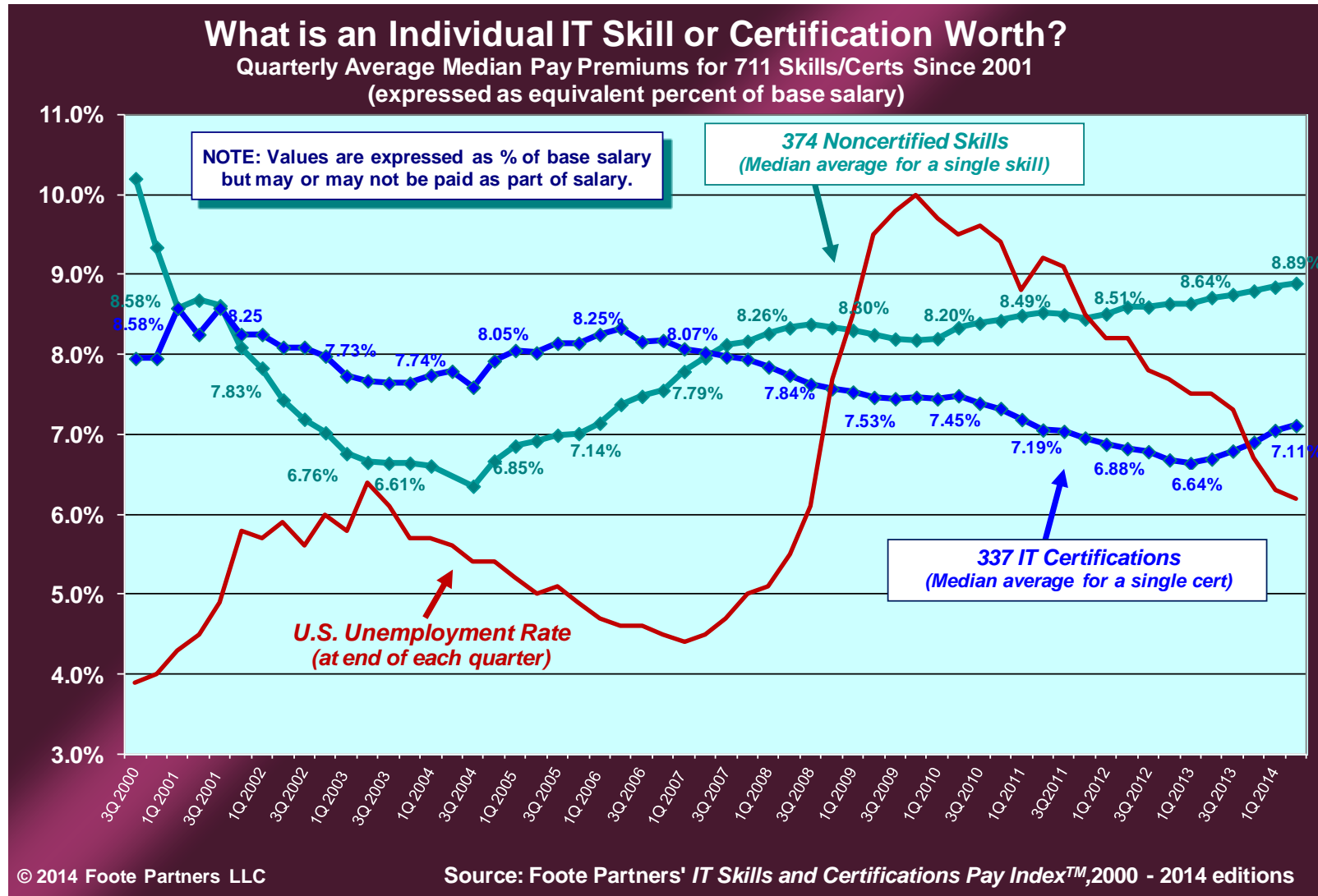
- **IT Certifications** (page 21)
- **Noncertified IT skills** (page 26)

How to interpret gains and losses in IT skills and certifications pay premiums

Quarterly gains and losses in premium pay reflect a widening or narrowing, respectively, in the gap between supply and demand for skills and certifications. This may occur for any number of reasons. For example, a quarterly decline in pay for a skill may signal that the market supply of talent for that skill is catching up to demand—not necessarily that demand is starting to wane. IT professionals are often attracted to a skill or certification if they perceive that it has rising value in the marketplace and therefore can help them to achieve higher pay, greater job security, a promotion, or more flexibility in their career choices. As they pursue greater competency in that skill or as more workers attain certification, supply increases and market pricing (which is elastic to the laws of supply and demand) will be driven downward unless demand is rising at the same proportional rate. Conversely, if demand rises and supply is not increasing to match that level of demand, pay premiums for specific skills and certifications will increase.

Therefore when interpreting gains and losses in market pay it is important to consider all factors that could be driving supply and demand and market perception. Those factors range from:

- aggressive marketing of certifications by vendors;
- changes in certification programs (e.g. certification extensions or retirement);
- new technology and evolution/maturation of current technologies;
- technology adoption rate;
- product integration strategies,
- economic conditions;
- employment opportunities;
- mergers/acquisitions;
- budget cycles and the timing of skills and talent acquisition by employers;
- changes in labor sourcing plans pursuant to company strategies.

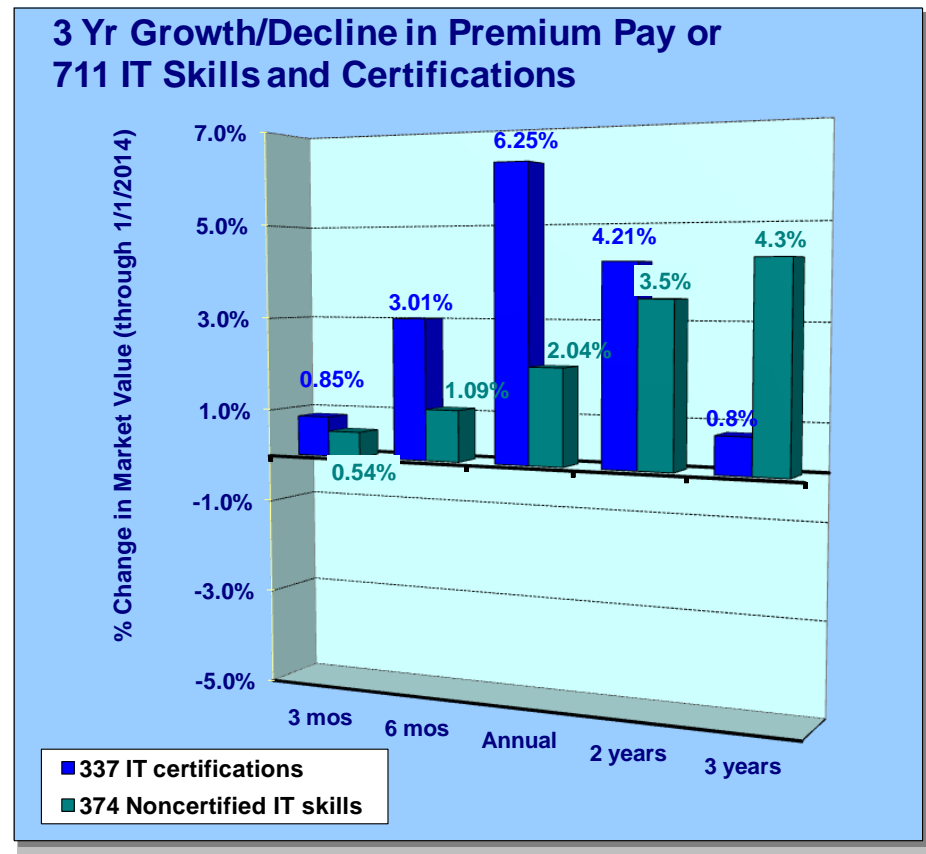


(Pay data supporting these charts is from the 2011 to 2014 quarterly editions of Foote Partners *IT Skills and Certifications Pay Index™*.)

SOURCE: Foote Partners *IT Skills & Certifications Pay Index™* 2000 - 2014 quarterly editions

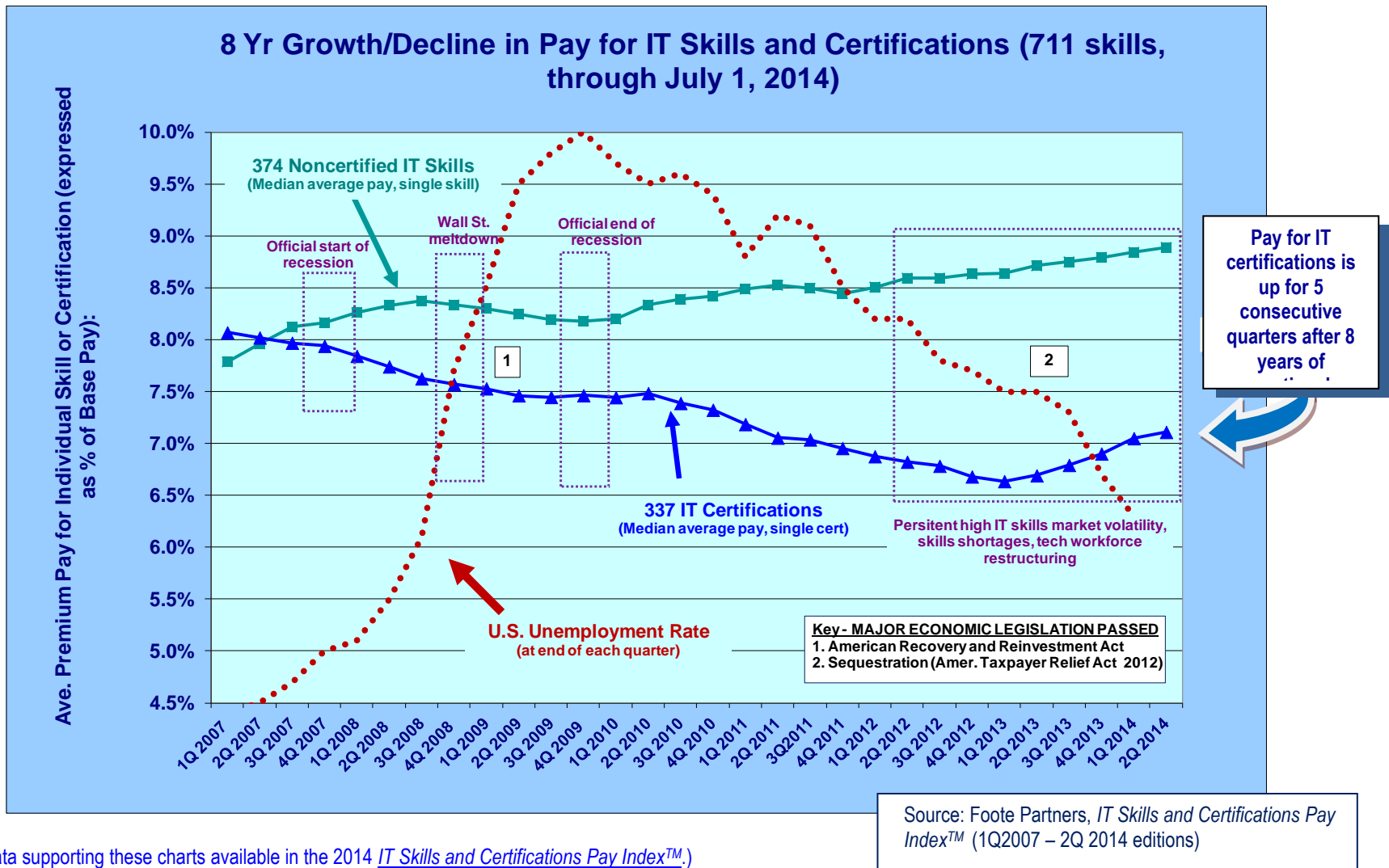
Pay Performance, 3/12/24/24/36 months
Certified vs. Noncertified IT Skills
(50,585 IT professionals)

Source: Foot Partners, *IT Skills and Certifications Pay Index™*
(2Q2011 – 2Q2014 editions)



Premium Pay for Certified and Noncertified IT Skills Has Become a Popular Component of IT Compensation as IT Organizations Transform Themselves

(Average Median Pay for a Single Certified vs. Noncertified IT Skill, Last 8 years – 50,585 professionals)



(Pay data supporting these charts available in the 2014 *IT Skills and Certifications Pay Index™*.)

Source: Foote Partners, *IT Skills and Certifications Pay Index™* (1Q2007 – 2Q 2014 editions)

IT Certifications: Latest market values and demand trends

(Data collected through July 1, 2014)

337 IT Certifications Reported

IT Skills and Certifications Pay

IT Skills and Certifications Pay Index™ (data through July 1, 2014)

- Avaya Certified Implementation Specialist
- Avaya Certified Professional Design Specialist
- Avaya Certified Solution Specialist
- AWS Certified Solutions Architect - Associate (Cloud)
- AWS Certified Solutions Architect - Professional (Cloud)
- AWS Certified SysOpsAdministrator-Associate (Cloud)
- BICSI ITS Technician
- Brocade Certified Network Engineer
- Brocade Certified Network Professional
- Brocade Certified Fabric Designer
- Brocade Certified Fabric Professional (BCFP)
- Certificate of Cloud Security Knowledge
- Certification of Competency in Business Analysis Certified Associate in Project Management
- Certified Business Analysis Professional (CBAP)
- Certified Business Continuity Professional (CBCP)
- Certified Computing Professional (CCP-ISC2)
- Certified Computer Examiner (CCE)
- Certified Database Design Specialist
- Certified Data Centre Management Professional
- Certified Data Management Professional
- Certified Disaster Recovery Engineer (C/DRE)
- Certified Force.com Developer (Salesforce.com)
- Certified Force.com Advanced Developer
- Certified IP Telecom Network Specialist (CIPTS)
- Certified in Convergent Network Technologies (CCNT)
- Certified in the Governance of Enterprise IT (CGEIT)
- Certified in Risk and Information Systems Control
- Certified Information Security Manager (CISM)
- Certified Information Systems Auditor (CISA)
- Certified Information Systems Security Professional
- Certified Protection Professional
- Certified Secure Software Lifecycle Professional
- Certified Technical Architect (Salesforce.com)
- Certified Telecommunications Network Specialist
- Check Point Certified Master Architect (CCMA)
- Check Point Certified Security Administrator (CCSA)
- Check Point Certified Security Expert (CCSE)
- Cisco Advanced Wireless LAN Design Specialist
- Cisco Advanced Wireless LAN Field Specialist
- Cisco ASA Specialist
- Cisco Certified Architect
- Cisco Certified Design Associate (CCDA)
- Cisco Certified Design Expert (CCDE)
- Cisco Certified Design Professional (CCDP)
- Cisco Certified Entry Network Technician (CCENT)
- Cisco Certified Internetwork Expert (CCIE)
- Cisco Certified Internetwork Professional (CCIP)
- Cisco Certified Network Associate (CCNA)
- Cisco Certified Network Associate - Security
- Cisco Certified Network Associate – Voice
- Cisco Certified Network Professional Wireless (CCNP Wireless)
- Cisco Certified Network Associate Wireless (CCNP Wireless)
- Cisco Certified Network Professional (CCNP)
- Cisco Certified Network Professional - Security
- Cisco Certified Network Professional Voice (formerly CCVP)
- Cisco Certified Systems Instructor (CCSI)
- Cisco Data Center Networking Infrastructure Design Specialist
- Cisco Data Center Networking Infrastructure Support Specialist
- Cisco Data Center Storage Networking Design Specialist
- Cisco Data Center Unified Computing Design Specialist
- Cisco Data Center Unified Computing Support Specialist
- Cisco Data Center Unified Fabric Design Specialist
- Cisco Data Center Unified Fabric Support Specialist
- Cisco Data Center Storage Networking Support Specialist
- Cisco Firewall Security Specialist
- Cisco IP Communications Express Specialist
- Cisco IP Contact Center Express Specialist (CPCC)
- Cisco IP Telephony Design Specialist
- Cisco IP Telephony Support Specialist
- Cisco IPS (Intrusion Prevention System) Specialist
- Cisco Network Admission Control Specialist
- Cisco Rich Media Communications Specialist
- Cisco Unity Design Specialist
- Cisco Unity Support Specialist
- Cisco VPN Specialist
- Cisco VPN Security Specialist
- Citrix Certified Advanced Administrator (CCAA)
- Citrix Certified Administrator (CCA)
- Citrix Certified Associate - Apps and Desktops
- Citrix Certified Expert - Apps and Desktops
- Citrix Certified Professional - Apps and Desktops
- Citrix Certified Enterprise Administrator (CCEA)
- Citrix Certified Enterprise Engineer (CCEE) for Virtualization
- Citrix Certified Administrator (CCA)
- Citrix Certified Associate - Apps and Desktops
- Citrix Certified Expert - Apps and Desktops
- Citrix Certified Professional - Apps and Desktops
- Citrix Certified Enterprise Administrator (CCEA)
- Citrix Certified Enterprise Engineer (CCEE) for Virtualization
- CompTIA Advanced Security Practitioner (CASP)
- CompTIA Certified Technical Trainer (CTT+)
- CompTIA Cloud Essentials
- CompTIA Convergence+
- CompTIA/Linux Administrator (Linux+)
- CompTIA Mobility+
- CompTIA/Network (Network+)
- CompTIA Project+
- CompTIA Security+
- CompTIA Server+
- CompTIA Storage+
- Convergence Technologies Professional (CTP)
- CWNP Certified Wireless Analysis Professional (CWAP)
- CWNP/Certified Wireless Design Professional
- CWNP Certified Wireless Network Administrator (CWNA)/CWNP Certified Wireless Network Expert (CWNE)
- CWNP Certified Wireless Network Trainer (CWNT)
- CWNP Certified Wireless Security Professional (CWSP)
- CWTS/Certified Wireless Technology Specialist (CWTS)
- CyberSecurity Forensic Analyst
- EC-Council Certified Ethical Hacker
- EC-Council Computer Hacking Forensic Investigator (CHF)
- EC-Council Certified Secure Programmer
- EC-Council Certified Security Analyst
- EC-Council Disaster Recovery Professional
- EC-Council Licensed Penetration Tester (LPT)
- EC-Council Network Security Administrator (ENSA)
- EC-Council Certified VoIP Professional (ECVP)EMC Cloud Architect Expert (IT-as-a-Service)
- EMC Cloud Architect Specialist (Virtualized Information Infrastructure)
- EMC Data Science Associate
- EMC Implementation Engineer – Specialist
- EMC Implementation Engineer - Expert
- EMC Platform Engineer – Specialist
- EMC Storage Administrator - Backup Recovery
- EMC Storage Administrator – Expert
- EMC Storage Administrator – Specialist
- EMC System Administrator – Specialist
- EMC Technology Architect – Expert
- EMC Technology Architect – Specialist
- HP/Accredited Integration Specialist (AIS)
- HP Accredited Platform Specialist (APS)
- HP Accredited Systems Engineer--Cloud Architect V2
- HP Accredited Systems Engineer--Cloud IntegratorV1
- HP/ASE - Data Center and Cloud Architect V1
- HP Accredited Technical Professional (ATP)
- HP Accredited Technical Professional-Cloud Administrator
- HP ATP - Storage Solutions V1
- HP/Accredited Solutions Expert (ASE - all)
- HP/Accredited Systems Engineer (ASE)
- HP ASE - Storage Solutions Architect V1
- HP ASE - Storage Solutions Integrator V1
- HP/Certified Systems Administrator
- HP/Certified Systems Engineer
- HP/Master Accredited Solutions Expert (MASE - all)
- HP Master ASE - Storage Solutions Architect V1
- HP/Master Accredited Systems Engineer (Master ASE)
- HP/Master ASE – Data Center and Cloud ArchitectV1
- HP Vertica
- IBM Advanced Systems Administrator (all)
- IBM Certified Administrator for SOA Solutions: WebSphere Process Server
- IBM Certified Advanced Application Developer (all)
- IBM Certified Advanced Database Administrator
- IBM Certified Advanced Security Professional
- IBM Certified Advanced Technical Expert - Power Systems with AIX v2/v3

337 IT Certifications Reported

IT Skills and Certifications Pay

IT Skills and Certifications Pay Index™ (data through July 1, 2014)

- IBM Certified Applications Developer (all)
- IBM Certified Database Administrator
- IBM Certified Developer - Cognos
- IBM Certified Infrastructure Systems Architect
- IBM Certified Operator - AIX Basic Ops
- IBM Certified SOA Solution Designer
- IBM Certified Solution Advisor-Cloud Computing Advisor V2
- IBM Certified Solution Architect – Cloud Computing Infrastructure V1
- IBM Certified Solution Designer - WebSphere
- IBM Certified Solution Expert - Cognos
- IBM Certified Solutions Developer: WebSphere (al)
- IBM Certified Specialist - System z
- IBM Certified Specialist – Cognos
- IBM Certified Specialist - Storage
- IBM Certified Systems Administrator
- IBM Certified Systems Administrator - AIX 7
- IBM Certified Systems Administrator - IBM i 6.1
- IBM Certified Systems Administrator – WebSphere
- IBM Certified Systems Expert - AIX and Linux v2 (all)
- IBM Certified Advanced Technical Expert - Power Systems with AIX v2
- InfoSys Security Architecture Professional (ISSAP/CISSP)
- InfoSys Security Engineering Professional (ISSEP/CISSP)
- InfoSys Security Management Professional (ISSMP/CISSP)
- ITIL Practitioner Certificate in IT Service Management
- ITIL Service Manager Certification
- JBoss Certified Developer (Seam, Persistence, ESB)
- Juniper Networks Certified Internet Associate
- Juniper Networks Certified Internet Specialist
- Juniper Networks Certified Internet Professional
- Juniper Networks Certified Internet Expert
- Linux Professional Institute certification (Level 2)
- Linux Professional Institute certification (Level 3)
- Microsoft Certified Master/Solutions Master(all)
- Microsoft Certified Applications Developer (MCAD)
- Microsoft Certified Architect
- Microsoft Certified Database Administrator (MCDBA)
- Microsoft Certified Desktop Support Technician
- Microsoft Certified IT Professional (MCITP/all)
- Microsoft Certified IT Professional: DBA
- Microsoft Certified Professional (MCP) Microsoft Certified Professional Developer (all)
- Microsoft Certified Solution Developer: Applications Lifecycle Management
- Microsoft Certified Professional+Internet (MCP+I)
- Microsoft Certified Solution Developer (MCSO)
- Microsoft Certified Solutions Associate(all)
- Microsoft Certified Solutions Associate: SQL Server 2012
- Microsoft Certified Solutions Expert(all)
- Microsoft Certified Solutions Expert: Data Platform
- Microsoft Certified Solutions Expert: Desktop Infrastructure
- Microsoft Certified Solutions Expert: Private Cloud
- Microsoft Certified Solutions Expert: Server Infrastructure
- Microsoft Certified Solutions Expert: Communications
- Microsoft Certified Systems Administrator (MCSA)
- Microsoft Certified Systems Engineer (MCSE)
- Microsoft Certified Technology Specialist (all)
- Microsoft Certified Technology Specialist: Microsoft Dynamics CRM
- Microsoft Certified Technology Specialist: SQL Server 2008
- Microsoft Certified Trainer (MCT)
- Microsoft MCSA: Messaging (MCSA: Messaging)
- Microsoft MCSA: Security (MCSA: Security)
- Microsoft MCSE: Messaging (MCSE: Messaging)
- Microsoft MCSE: Security (MCSE: Security)
- Microsoft MCSE+Internet (MCSE+I)
- Microsoft Office Specialist
- Mongo DB Certified DBA
- Mongo DB Certified Developer
- NetScout/nGenius Certified Analyst (nCA)
- NetScout/nGenius Certified Expert (nCE)
- NetScout/nGenius Certified Master (nCM)
- NetScout/nGenius Certified Professional (nCP)
- Nortel Certified Architect
- Nortel Networks Certified Design Expert (NCDE)
- Nortel Networks Certified Design Expert (NCDE)
- Nortel Networks Certified Design Specialist
- Nortel Networks Certified Support Expert
- (NCSE)Nortel Networks Certified Support Specialist
- Nortel Networks Support Expert (NCSE)
- Novell Certified Instructor
- Novell Certified Linux Engineer (Novell CLE)
- Novell Certified Linux Professional (Novell CLP)
- Novell/Certified Directory Engineer (NCDE)
- Novell/Certified Internet Professional (CIP)
- Novell/Certified Novell Administrator (CNA)
- Novell/Certified Novell Engineer (CNE)
- Novell Identity Manager Administrator
- Open Group Certified Architect
- Open Group Master Architect
- Oracle Business Intelligence Foundation Suite 11G Certified Implementation Specialist
- Oracle Certified Associate, Java SE Programmer
- Oracle Certified Associate, MySQL 5
- Oracle Certified Associate, WebLogic Server Administrator
- Oracle Certified Expert MySQL 5.1 Cluster Database Administrator
- Oracle Certified Expert Siebel CRM Business Analyst
- Oracle Certified Expert, Java Platform EE Developer
- Oracle Certified Expert, Oracle Solaris 10 Network Administrator for Solaris
- Oracle Certified Expert, Oracle Solaris 10 Systems Administrator for Solaris
- Oracle Certified Master, Java EE Enterprise Architect
- Oracle Certified Master, Java SE Developer
- Oracle Certified Professional - Advanced PL/SQL Developer
- Oracle Certified Professional Application Server 10g Administrator
- Oracle Certified Professional Java SE Programmer
- Oracle Certified Professional MySQL 5.0 Database Administrator
- Oracle Certified Professional, E-Business Suite
- Oracle Certified Professional, Java EE Web Component Developer
- Oracle Certified Professional, MySQL 5.0 Developer
- Oracle Certified Professional, Oracle Solaris 10 Systems Administrator for Solaris
- Oracle Certified Programmer, Java EE Web Services Developer
- Oracle Administrator Certified Associate - DBA (OCA)
- Oracle Administrator Certified Master - DBA (OCM)
- Oracle Administrator Certified Professional - DBA
- Oracle Exadata 11g Certified Implementation Specialist
- Oracle Forms Developer Certified Professional
- Oracle PL/SQL Developer Certified Associate
- Oracle SOA Infrastructure Implementation Certified Expert
- Oracle WebLogic Server System Administrator Certified Expert
- PMI Agile Certified Practitioner (PMI-ACP)
- PMI Program Management Professional (PgMP)
- PMI Project Management Professional (PMP)
- PMI Risk Management Professional (PMI-RMP)
- Red Hat Certificate of Expertise in Infrastructure-as-a-Service
- Red Hat Certified Architect (RHCA)
- Red Hat Certified Datacenter Specialist (RHCD)
- Red Hat Certified Engineer (RHCE)
- Red Hat Certified Security Specialist (RHCSS)
- Red Hat Certified Systems Administrator
- Red Hat Certified Technician (RHCT)
- RedHat Certified Virtualization Administration
- Certified Windows Security Admin (GCNT)
- RSA Certified Administrator (RSA/CA)
- RSA Certified Systems Engineer (RSA/CSE)
- SANS/GIAC Assessing Wireless Networks
- SANS/GIAC Auditing Wireless Networks (GAWN)
- SANS/GIAC Exploit Researcher and Advanced Penetration Tester
- SANS/GIAC Certified Firewall Analyst (GCFW)
- SANS/GIAC Certified Forensic Analyst (GCF)
- SANS/GIAC Certified Forensics Examiner SANS/GIAC Certified Incident Handler (GCIH)
- SANS/GIAC Information Security Fundamentals (GISF)
- SANS/GIAC Certified Intrusion Analyst (GICIA)
- SANS/GIAC Certified ISO-27000 Specialist (was G7799)
- SANS/GIAC Legal Issues in Information Technology and Security (GLEG)

337 IT Certifications Reported

IT Skills and Certifications Pay

IT Skills and Certifications Pay Index™ (data through July 1, 2014)

- SANS/GIAC Certified Penetration Tester (GPEN)
- GIAC Certified Perimeter Protection Analyst (GPPA)
- SANS/GIAC Certified Project Manager (GCPM)
- SANS/GIAC Certified Security Essentials (GSEC)
- SANS/GIAC Certified Unix Security Admin (GCUA)
- SANS/GIAC Certified Web Application Defender
- SANS/GIAC SANS/GIAC Enterprise Defender
- SANS/GIAC Information Security Professional (GISP)
- SANS/GIAC Reverse Engineering Malware (GREM)
- SANS/GIAC Secure Software Programmer-- .NET
- SANS/GIAC Secure Software Programmer—Java
- SANS/GIAC Security Essentials
- SANS/GIAC/Security Leadership (GSLC)
- SANS/GIAC Systems and Network Auditor (GSNA)
- SANS/GIAC Web Application Penetration Tester (GWAPT)
- SAS Certified Advanced Programmer
- SAS Certified Base Programmer
- SAS Certified Predictive Modeler
- SAS Certified Statistical Business Analyst
- Security Certified Network Architect (SCNA)
- Security Certified Network Specialist (SCNS)
- Siebel 8 Consultant Certified Expert
- Six Sigma Black Belt
- Six Sigma Master Black Belt
- SNIA Certified Storage Architect
- SNIA Certified Storage Networking Expert (SCSN-E)
- SNIA Certified Storage Professional
- SNIA Certified Systems Engineer Sniffer Certified Expert
- SolarWinds Certified Professional (SCP)
- Sun Certifications (SEE ORACLE)
- Systems Security Certified Professional (SSCP)Teradata 12 Certified Associate
- Teradata 12 Certified Database Administrator
- Teradata 12 Certified Enterprise Architect
- Teradata 12 Certified Master
- Teradata 12 Certified Professional
- Teradata 12 Certified Solutions Developer
- Teradata 12 Certified Technical Specialist
- Advanced Teradata Certified Professional
- TIBCO Certified Professional
- TIBCO Certified SOA Architect
- TOGAF 9 Certified
- VMware Certified Advanced Professional
- VMware Certified Design Expert (VCDX)
- VMware Certified Design Expert - Cloud (VCDX-Cloud)
- VMware Certified Professional (VCP)
- VMware Certified Advanced Professional – Cloud Infrastructure Design (VCAP-CID)
- VMware Certified Professional-Cloud (VCP-Cloud)

IT Skills and Certifications Pay

IT Skills and Certifications Pay Index™ (data through July 1, 2014)

2-YEAR IT CERTIFICATIONS PAY TRENDS

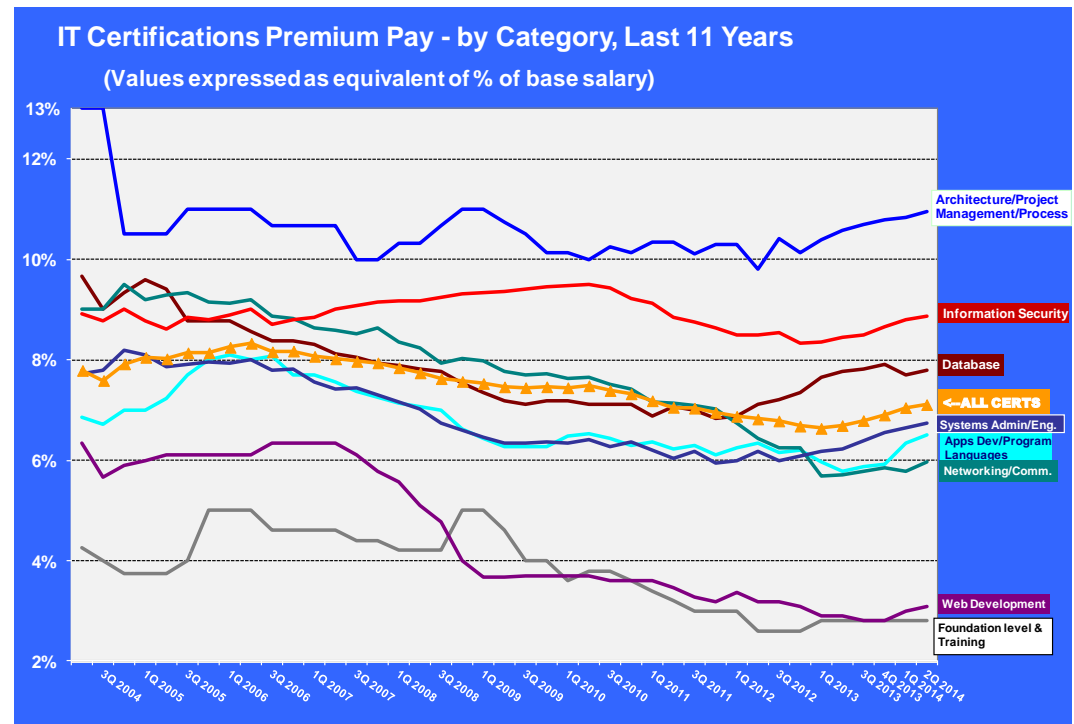
(Data collected through 7/1/2014 – 50,585 IT Professionals)

IT CERTIFICATIONS CATEGORIES	# of certs surveyed	Change in Average Premium Pay by Category			
		% Change 3 mos	% Change 6 mos	% Change ANNUAL	% Change 2 yrs
Foundation level and Training	5	0.0%	0.0%	0.0%	7.7%
Apps Development/Prog. Languages	40	2.4%	9.7%	12.4%	2.3%
Database	32	0.9%	-1.6%	0.2%	9.5%
Web Development	11	3.0%	9.7%	6.3%	-2.9%
Networking & Communications	84	3.1%	2.0%	4.4%	-7.3%
System Administration/Engineering	75	1.3%	3.0%	8.4%	9.2%
Information Security	67	0.6%	2.4%	4.8%	4.3%
Architecture/Project Management/Process	23	1.2%	1.6%	3.5%	11.8%
ALL CERTIFICATIONS SURVEYED	337	0.85%	3.01%	6.25%	4.21%

3/12/24 MONTH IT CERTIFICATIONS PAY TRENDS BY CATEGORY

(% Change in Average Median Pay for a Single IT Certification)

(Data collected through 7/1/2014 – 50,585 IT Professionals)



SOURCE: Data supporting these charts is from Foote Partners *IT Skills & Certifications Pay Index™* (2004 to 2014 quarterly editions)

(Pay data supporting these charts available in the *IT Skills and Certifications Pay Index™* - 2Q 2014 edition)

IT Skills (Noncertified): Latest market values and demand trends

(Data collected through July 1, 2014)

374 Noncertified IT Skills Surveyed

IT Skills and Certifications Pay

IT Skills and Certifications Pay Index™ (data through July 1, 2014)

Applications Development Tools & Platforms

Agile Programming/RAD/Extreme Programming
 Amazon Web Services (EC2, S3, ASW, SQS, ELB, et. al.)
 Apache Cordova
 Apache Flex
 Apache Hadoop
 Apache Maven
 Apache Pig/Pig Latin
 Apache Struts/Struts2
 Apache Tomcat
 Business Objects
 C
 C#
 C++ /CLI
 Clarity PPM
 Clojure
 Cloudera software
 Cobol
 Cognos
 Delphi
 Drupal
 Eclipse
 Epic Systems applications
 F#
 Groovy/Grails
 Hibernate
 iRise
 Java/J2SE, ME, J2EE
 Jenkins
 MapReduce
 MATLAB
 NetWeaver
 Objective-C
 Oracle Apps Developer Framework
 PL/SQL
 Powerbuilder
 Progress 4GL/Development tools
 Ruby
 Ruby on Rails
 Saas
 SAS
 Scala
 Scrum
 SQL Windows

Tcl
 Transact-SQL
 UML (unified modeling language)
 Visual Basic 6.0
 Visual C++
 Visual J++
 WebSphereMQ
 Xcode

SAP & Enterprise Bus. Apps.

ABAP (all modules)
 Baan
 J.D. Edwards
 Lawson
 Microsoft Dynamics
 NetWeaver
 NetWeaver Portal (SAP EP)
 Oracle BPM
 Oracle CRM
 Oracle E-Business suite
 Oracle Financials
 Oracle SCM
 Peoplesoft
 Remedy
 Salesforce
 Accelerated SAP (SLM)
 SAP AFS
 SAP ALE
 SAP APO
 SAP Auto-ID infrastructure
 SAP Banking
 SAP Basis Components
 SAP BI Accelerator
 SAP BODI
 SAP BODS
 SAP BOXI
 SAP BPC
 SAP BSP
 SAP Business One
 SAP Business Workflow/Webflow
 SAP CA
 SAP CAF
 SAP CCM
 SAP CE
 SAP CFM
 SAP CO

SAP CO-PA
 SAP CRM
 SAP Crystal Reports
 SAP CS
 SAP EBP
 SAP EDI
 SAP EHS
 SAP EPM
 SAP ERP
 SAP ESA
 SAP FI (Financial Accounting)
 SAP FI - CA
 SAP FI - FSCM
 SAP FI - Travel Management
 SAP FS (Insurance)
 SAP GRC
 SAP GTS
 SAP HANA (In-Memory Appliance)
 SAP HCM (SAP HR)
 SAP HCM ESS/MSS
 SAP HR-PA
 SAP IM
 SAP IS-U (Utilities)
 SAP ITS
 SAP KW
 SAP LES
 SAP LO
 SAP Manufacturing
 SAP MDM
 SAP MSR
 SAP MDX
 SAP MI
 SAP MII
 SAP MM
 SAP MRO
 SAP Netweaver Applications Server
 SAP Netweaver BW (BIW)
 SAP NetWeaver Visual Composer
 SAP NWDI
 SAP Oil & Gas
 SAP PI (NetWeaver Process Integ.)
 SAP PLM
 SAP PM
 SAP PP
 SAP PS
 SAP PSCD
 SAP Public Sector Management

SAP PY (Payroll)
 SAP QM
 SAP Retail
 SAP Service & Asset Mgt.
 SAP SCM
 SAP SD
 SAP SD - GTS
 SAP Security
 SAP SEM
 SAP SM
 SAP Smart Forms
 SAP Solution Manager
 SAP SRM
 SAP TM
 SAP Web Application Server
 SAP WEBI
 SAP WM
 SAP WM – EWM
 SAP Xcelsius
 Siebel
 Software AG webMethods
 SuccessFactors
 Web Dynapro

Systems/Networks

Ansible
 Apache Flume
 APPC
 ATM
 Business continuity and disaster recovery planning
 Chef/Opscode
 Cisco CUCM
 Cisco ICM
 Cisco IPCC
 CiscoNexus
 Cisco UCCE
 Cisco UCCX
 Citrix XenApp
 Citrix XenServer
 Cloud architecture
 Cloud security
 DHCP
 EIGRP
 Ethernet
 Fast Ethernet

Gigabit Ethernet(1 GigE/10 GigE)
 HP Converged System
 HTTPS
 Infrastructure architecture
 Intrusion prevention/detection systems
 IPX/SPX
 LAN
 LTE
 Microsoft Application Virtualization (AppV)
 Microsoft Hyper-V
 Microsoft NT Server
 Microsoft Virtual Server
 Mobile device management
 Mobile security
 Multiprotocol Label Switching
 Network access control/Identity mgt systems
 NAS/Network Attached Storage
 Network security management
 Novell Netware
 Puppet
 Rackspace Cloud
 RFID
 Routing (e.g. OSPF)
 Salt
 SAN/Storage Area Networks
 Security skills (project-based)
 SIP (all variants)
 SMTP
 SNA
 SolarWinds
 Storage administration
 TCP/IP
 Tivoli
 vCloud
 Virtualization
 Virtual security
 VMware Server
 VoIP/IP telephony
 VPN/OpenVPN WAN/3G/4G services
 WAP
 Wireless Network Mgmt
 Wireline Networking/ Telecomm.
 WML

374 Noncertified IT Skills Surveyed

IT Skills and Certifications Pay

IT Skills and Certifications Pay Index™ (data through July 1, 2014)

Web/e-Commerce Development

Active Server Pages
 ActiveX
 Ajax
 Apache Solr
 Apache web server
 CGI
 Cold Fusion MX
 CSS/CSS3
 Documentum
 Google App Engine
 HTML5
 JavaBeans/EJB 3.0
 JavaFX
 JavaScript
 Java Server Pages
 JBoss Enterprise
 Joomla!
 jQuery
 JSON
 Microsoft BizTalk Server
 Microsoft Commerce Server
 Microsoft Identity Integration Server
 Microsoft Internet Information Services
 Microsoft Internet Security and Acceleration Server (ISA)
 Microsoft Sharepoint
 Microsoft Silverlight
 Microsoft .NET
 Mobile applications development
 Oracle Fusion
 Oracle WebLogic
 Oracle Workflow
 Perl
 PHP (all)
 Python
 REST
 RESTful
 Secure software development
 SOAP
 Social Media/Networks
 Spring Framework
 Sterling
 TIBCO

VBScript
 Video/graphics editing
 Visual Interdev
 VoiceXML
 Web collaboration appliances
 WebSphere
 WebSphere Datapower
 Wikis
 WSDL
 XAML/XACML
 XHTML MP
 XML (all variants)

Database

Apache Cassandra
 Apache CouchDB
 Apache Hive
 Base SAS
 Couchbase Server
 Database management
 Data mining
 Data security
 DB2
 dbase/xbase
 ETL (Extract, transform, load)
 Hbase
 Informatica
 Java Database Connectivity
 Master data management
 Microsoft Access
 Microsoft Exchange Server
 Microsoft SQL Server
 MongoDB
 MySQL
 NoSQL
 Oracle Application Server
 Oracle Business Intelligence Enterprise Edition Plus
 Oracle DB 9i/10g/11i/12c
 Oracle Enterprise Manager
 Oracle Exadata
 Oracle Forms
 OpenEdge ABL (Progress 4GL)
 Redis
 Riak

Sybase Adaptive Server
 Visual SQL

Management, Methodology and Process

Big Data Analytics
 Business Analysis
 Business intelligence
 Business process management/modeling/improvement
 Business performance management (software/systems)
 Capacity Planning/Management
 Change management
 Collaboration software
 Complex Event Processing/Event Correlation
 Configuration Management
 Continuous Integration
 CRM
 Cryptography (encryption, VPN, SSL/TLS, Hybrids)
 Cybersecurity
 Data Architecture
 Data Governance
 Data Management
 Data Modelling
 DevOps
 E-Procurement
 ERP
 Game Development
 Information management
 IT Governance
 ITIL V3
 Marketo
 Microsoft Visio
 Predictive Analytics and Modeling
 Prescriptive Analytics
 Product lifecycle management software
 Project management/governance
 Quality management/TQM
 Quantitative Analysis/Regression Analysis
 Requirements Engineering/Analysis

Risk assessment/analysis
 Risk management
 Security architecture and models
 SEO
 Service Management
 Social media marketing
 Test automation
 Test Driven Development/Scripting
 Six Sigma/Lean Six Sigma
 TOGAF (Enterprise Architecture)
 User Acceptance Testing
 User Experience Design

Messaging & Communications

Lotus Notes/Domino
 Message-oriented Middleware (Wave, XMPP/Jabber, etc.)
 Microsoft Exchange
 Novell Groupwise
 Outlook/cc.mail/various clients
 Oracle Comm Messaging Server
 TIBCO Enterprise Message Service
 Unified Communications/Messaging

Operating Systems

AIX
 HP-UX
 Linux
 Mac OS X
 Mobile operating systems (Apple, Microsoft, Android, etc.)
 Red Hat Enterprise Linux
 Solaris
 Unix (all)
 VMware vSphere
 Windows 8/7
 Windows NT
 Windows Server 2008/2003

IT Skills and Certifications Pay

IT Skills and Certifications Pay Index™ (data through July 1, 2014)

2-YEAR NONCERTIFIED IT SKILLS PAY TRENDS

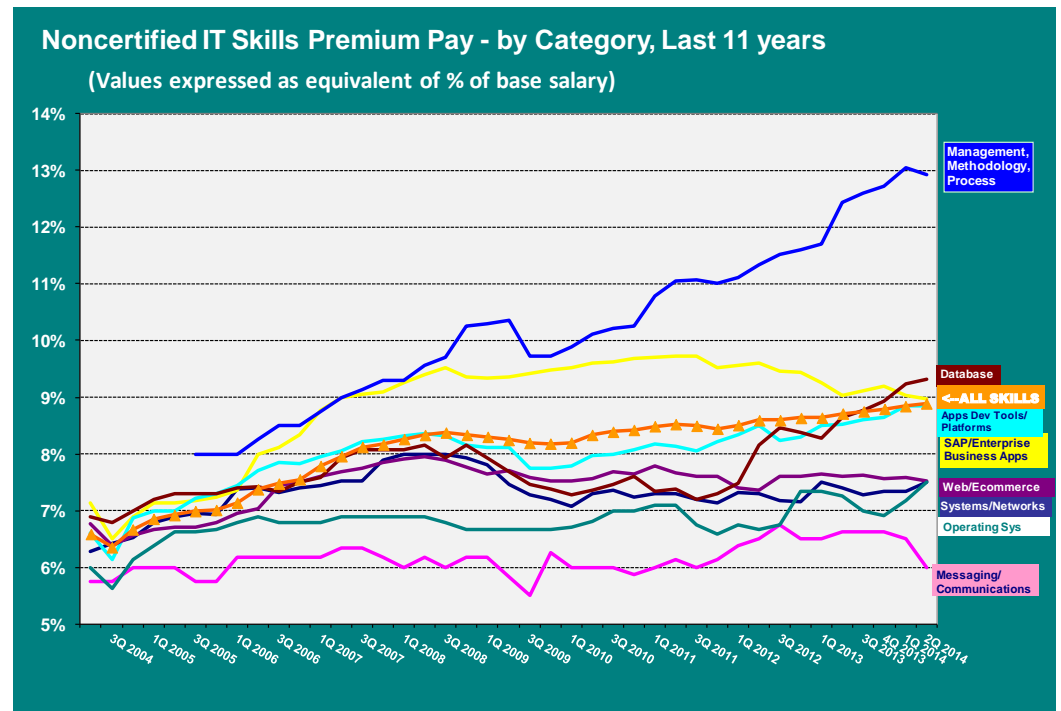
(Data collected through 7/1/2014 – 50,535 IT professionals)

NONCERTIFIED IT SKILLS CATEGORIES	# of skills surveyed	Change in Average Premium Pay by Category			
		% Change 3 mos	% Change 6 mos	% Change ANNUAL	% Change 2 yrs
Systems/Networking	66	2.2%	2.2%	1.4%	2.9%
Messaging and Communications	8	-7.7%	-9.4%	-9.4%	-7.7%
SAP & Enterprise Business Applications	105	-0.6%	-2.3%	-0.8%	-6.5%
Apps Development Tools & Platforms	51	0.1%	2.4%	3.9%	4.0%
Web/e-Commerce Development	54	-0.7%	-0.5%	-1.2%	2.1%
Database	32	0.9%	4.3%	7.8%	14.1%
Operating Systems	12	4.6%	8.4%	3.4%	12.5%
Management/Methodology/Process	46	-0.9%	1.7%	4.0%	14.0%
ALL NONCERTIFIED SKILLS SURVEYED	374	0.54%	1.09%	2.04%	3.46%

3/12/24 MONTH NONCERTIFIED IT SKILLS PAY TRENDS BY CATEGORY

(% Change in Average Median Pay for a Single IT Certification)

(Data collected through 7/1/2014 – 50,535 IT professionals)



SOURCE: Data supporting these charts is from Foote Partners *IT Skills & Certifications Pay Index™* (2004 to 2013 quarterly editions)

(Pay data supporting these charts available in the *IT Skills and Certifications Pay Index™* 2Q 2014 edition)

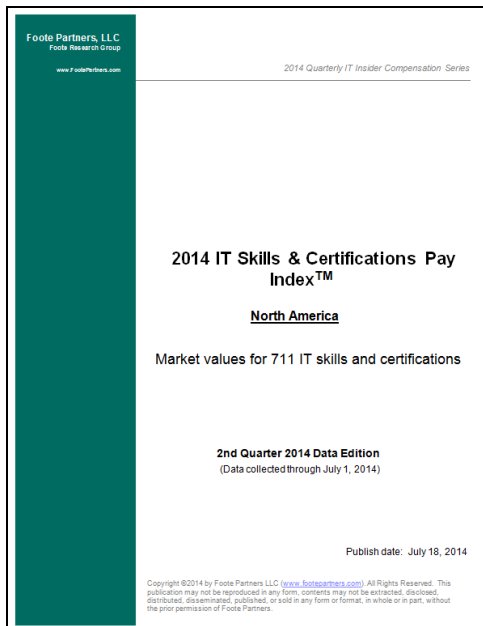
ABOUT THIS RESEARCH

Foote Partners' primary research survey for tracking IT skills and certifications pay and supply/demand volatility is the industry-leading ***IT Skills and Certifications Pay Index™ (ITSCPI)***, launched in 1999 and updated every three months since that time. Data covering 163,313 IT professionals at 2,618 employers in 83 U.S. and Canada cities are reported for IT salaries and skills pay earned for 164 positions and 711 certified and noncertified technical and business skills. Verified and validated pay data for 50,535 IT workers has been included in the 2nd quarter 2014 edition of the ITSCPI, compiled from data collected through July 1, 2014.

Demographics of the participating organizations for our latest update are as follows, measured most appropriately for the type of business, by revenues, assets, total premiums and operating budgets:

- 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 \$500 million

IT Skills and Certifications Pay Index™ – 2nd quarter 2014 data edition



- 364 pages (Q2 2014 data edition)
- Pay premiums for 711 certified and noncertified IT skills
 - Three data points for each position: 10th, 50th, 90th percentile
- Verified and validated IT skills pay data from 49,350,535 IT professionals at 2,618 employers in US and Canada
- Current data collected through July 1, 2014 (updated quarterly)
- Certifications Guide containing basic information about surveyed IT certifications (pre-requisites; costs; test content; lab requirements, etc.)

Pricing: \$4,200 single edition. \$16,000 annual subscription.

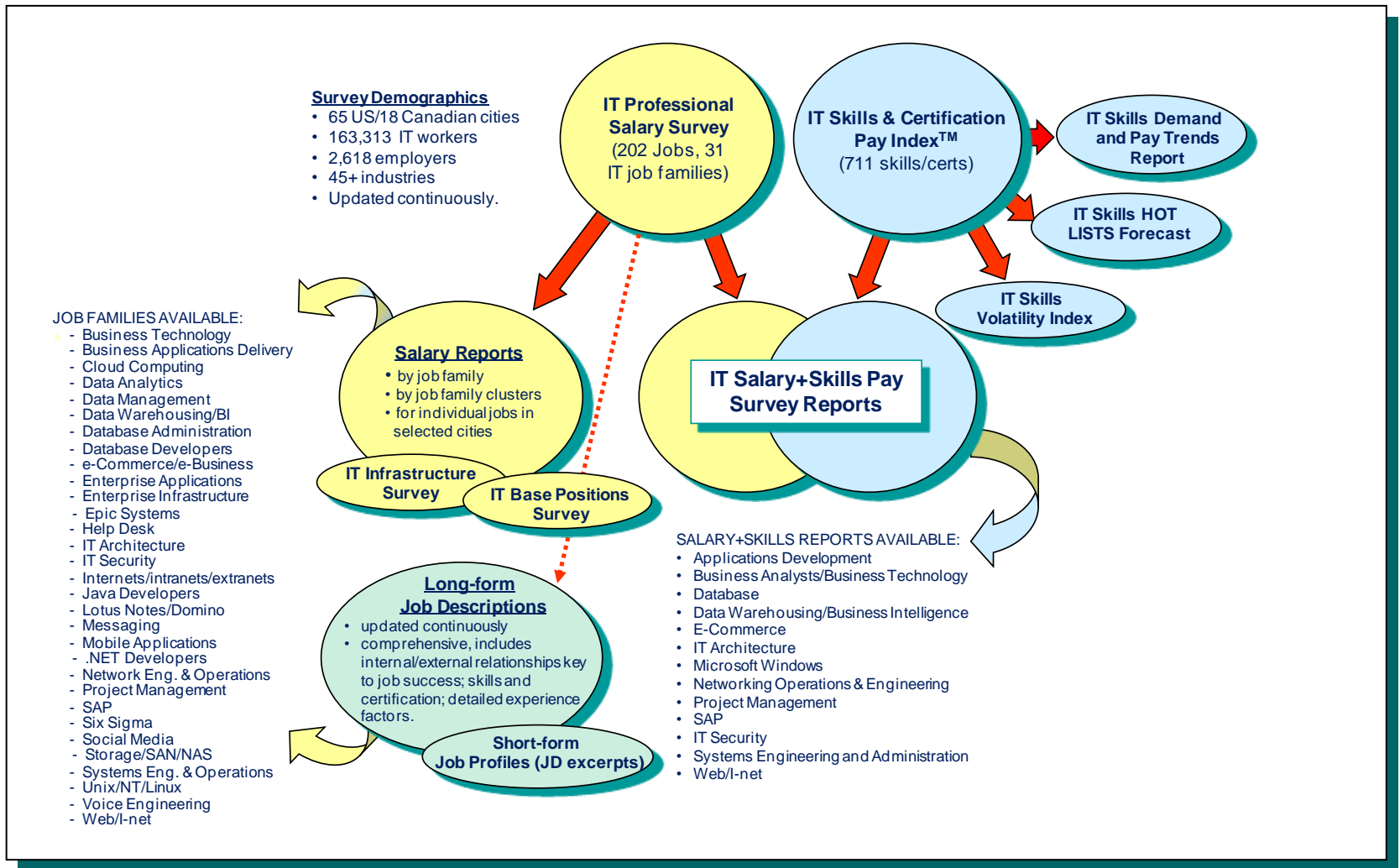
Definition of IT skills premium pay

- Pay that IT workers receive for possessing high-value IT and business skills used on the job
- Given in the form of a bonus, or embedded in base salary to adjust for the presence of a dominant vendor or technology central to job performance (examples: Cisco Network Engineer, Python Software Engineer, Redhat Linux Systems Administrator, or SAP Developer.)
- Often used to adjust either base pay or total pay in situations where job title does not match actual on-the-job duties and responsibilities, and changing the job title is not an attractive option
- May be used as a reward, recruiting inducement, retention tool, or as a guide for creating consulting rate cards

TO OBTAIN A COPY OF THE LATEST *IT SKILLS AND CERTIFICATIONS PAY INDEX™*

Please visit the Foote Partners web site: <http://www.footepartners.com/itcompensation.html>

Foote Partners 2014 IT Compensation Survey Product Map



ABOUT FOOTE PARTNERS

Foote Partners, LLC is an IT analyst firm and independent benchmark research organization focusing on the human capital and user (versus vendor) side of managing technology and IT value creation. A thought leader and trusted advisor to more than 2,400 employers on six continents, the firm provides pragmatic and forward-thinking benchmark research and analysis about managing the modern highly integrated business/IT hybrid environment in which virtually all organizations operate their businesses.

The firm's research is deeply grounded in highly specialized proprietary benchmark research, surveys, and empirical intelligence collected from 2,618 North American employers representing 164,000 IT professionals with whom Foote Partners has forged long term research partnerships.

Founded in 1997 and comprised of former Gartner and META Group industry analysts, McKinsey & Company, Towers Watson, and Mercer senior consultants, and former corporate HR, IT, and business executives, the firm's research division publishes more than 100 quarterly-updated IT decision support benchmark research products that help employers benchmark their IT professional compensation, solve difficult information technology management and workforce problems, and strengthen their ability to execute complex solutions to increasing revenues, improving profitability, and building customer satisfaction.

Foote Partners IT workforce and compensation survey findings and analyses are featured regularly in hundreds of HR, IT and business periodicals and media sources around the globe, including *Bloomberg BusinessWeek*, *Forbes*, *Fortune*, *Wall Street Journal*, *New York Times*, *CIO Magazine*, *ComputerWorld*, *Network World*, *WorldatWork's Journal* and *Workspan Magazine*; and in analyst appearances on network and cable television, National Public Radio, and countless podcasts and webcasts.

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