Architecture Pay, Skills Demand and Careers

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State of U.S. Labor today

- Unemployed rate: **9.5%**
- Americans unemployed: **14.7 million**
- Total jobs lost since start of recession: **7.2 million**
- Active recruiting for **2.6 million** U.S. **job openings** reported (July '09 BLS/JOLTS report)

  Leaders: Education and Health Services
  Professional and Business Services
  Government

Skills mismatches are not just an IT phenomenon.

DOL/Bureau of Labor Statistics:
Bellwether IT Segments

IT trending (and counter trending)

	2008			2009					
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Total Jobs Lost since 12/07 (millions)		2.7		3.6		5.1	5.7	7	7.2
Nonfarm job loss (month)	240,000	533,000	524,000	598,000	651,000	663,000	539,000	345,000	467,000
National unemployment rate	6.5%	6.8%	7.2%	7.6%	8.1%	8.5%	8.9%	9.4%	9.5%
	Job Gains/Losses								
Computer/Electronic Products	-4,200	-7,000	-8,200	-8,800	-13,100	-5,300	-11,700	-14,400	-16,100
Segment: Computer/PeripheralEquipment	200	-1,200	-700	700	-3,100	-1,500	-2,900	-3,200	-2,300
Segment: Communications Equipment	100	-600	-1,700	-500	-200	600	200	-600	-2,100
Professional/Technical Services	12,500	-17,400	-18,100	-28,600	-36,700	-31,300	-17,100	-18,800	-40,400
Segment: Management/Technical Consulting Services	300	1,400	-1,800	11,000	-4,800	-6,100	1,600	700	-1,100
Segment: Computer Systems Design/Related Services	5,500	2,700	-2,900	-3,500	-300	-3,900	-1,400	-2,800	-2,700
Information	0	-19,000	-20,000	-21,000	-15,000	-10,000	-17,000	-24,000	-21,000
Segment: Data Processing/Hosting/ Related Services	-100	-1,400	500	200	-2,000	-200	-900	-3,500	600

Red: Jobs lost
Green: Jobs gained

IT Spending Forecast

Worldwide IT Spending Forecast (Billions of U.S. Dollars)

	'08 Spending	'09 Spending	'10 Spending
Computing Hardware	**379.5**	**317.8**	**317.7**
Annual Growth (%)	2.5	-16.3	0.0
Software	**221.9**	**218.3**	**225.3**
Annual Growth (%)	10.3	-1.6	3.2
IT Services	**805.9**	**761.0**	**784.0**
Annual Growth (%)	8.2	-5.6	3.0
Telecom	**1,945.2**	**1,855.9**	**1,898.7**
Annual Growth (%)	5.7	-4.6	2.3
All IT	**3,352.5**	**3,152.9**	**3,225.7**
Annual Growth (%)	**6.2**	**-6.0**	**2.3**

Source: Gartner (June 2009)

Observations: IT Workforce

- Selective layoffs and outsourcing but… intense, targeted search for talent persists
  - Lots of bodies available, not necessarily matched to skills reqs
- IT skills demand *counter trending* continues, but less pronounced than earlier in 2009 (Foote ITSCPI survey)
  - Jan/Feb/March: 60 IT skills declined in value, <u>46 increased</u>
  - April/May/June: 46 declined in value, <u>28 increased</u>
  - Skills demand remains tactical and strategic, more so in a recession

Observations: IT Workforce, cont.

- Quality versus quantity
- Accent on execution, flexibility, agility, ROI in current labor strategies…but not absent a post-recession consciousness

EA Death Watch

- Gartner 2009 Prediction (Greta James): Enterprise architecture programs are at risk
  - "More than half of EA programs will be stopped in 2009"
  - "Many of the remaining EA programs will embrace cloud computing, but struggle with framework and information management problems"

Oh, yeah, Greta?

Let's look at some data…

2Q 2009 Foote Partners Compensation and Skills Research Domain

- **88,400 IT workers** tracked continuously for salaries, IT skills pay, attitudes, and management practices. **82 cities** in US and Canada. **1,980 employers**.
- 30+ private sector industries; federal/state/local governments, educational and not-for-profit institutions.
- Demographics of the research partner organizations:
  - 13% of participating organizations have $3 billion+ in sales/$15+ billion in TA
  - 25% earn > $1 billion in annual revenues or > $3 billion in total assets
  - 42% have $500+ million in sales/$1+ billion in total assets/$500+ million in premiums/$500+ million operating budget (government, educational, not-for-profit)
  - **58% fall into the SMB segment** (small-to-medium sized business), generally defined as organization under $500 million in sales.
  - [Public sector] 5% have operating budgets of $500 million or more, 4% with operating budgets $100 million to less than $500million (nonprofit/government/educational sectors)

IT Skills and Certifications Pay Index™

- Oldest and most comprehensive skills pay and demand survey in existence
- Launched in 1999, updated weekly, published quarterly
- Verified skills pay data from **22,234** IT professionals in North America
- IT skills and certs trends: historical, current, projections
- Current market pay premiums for noncertified and certified IT skills

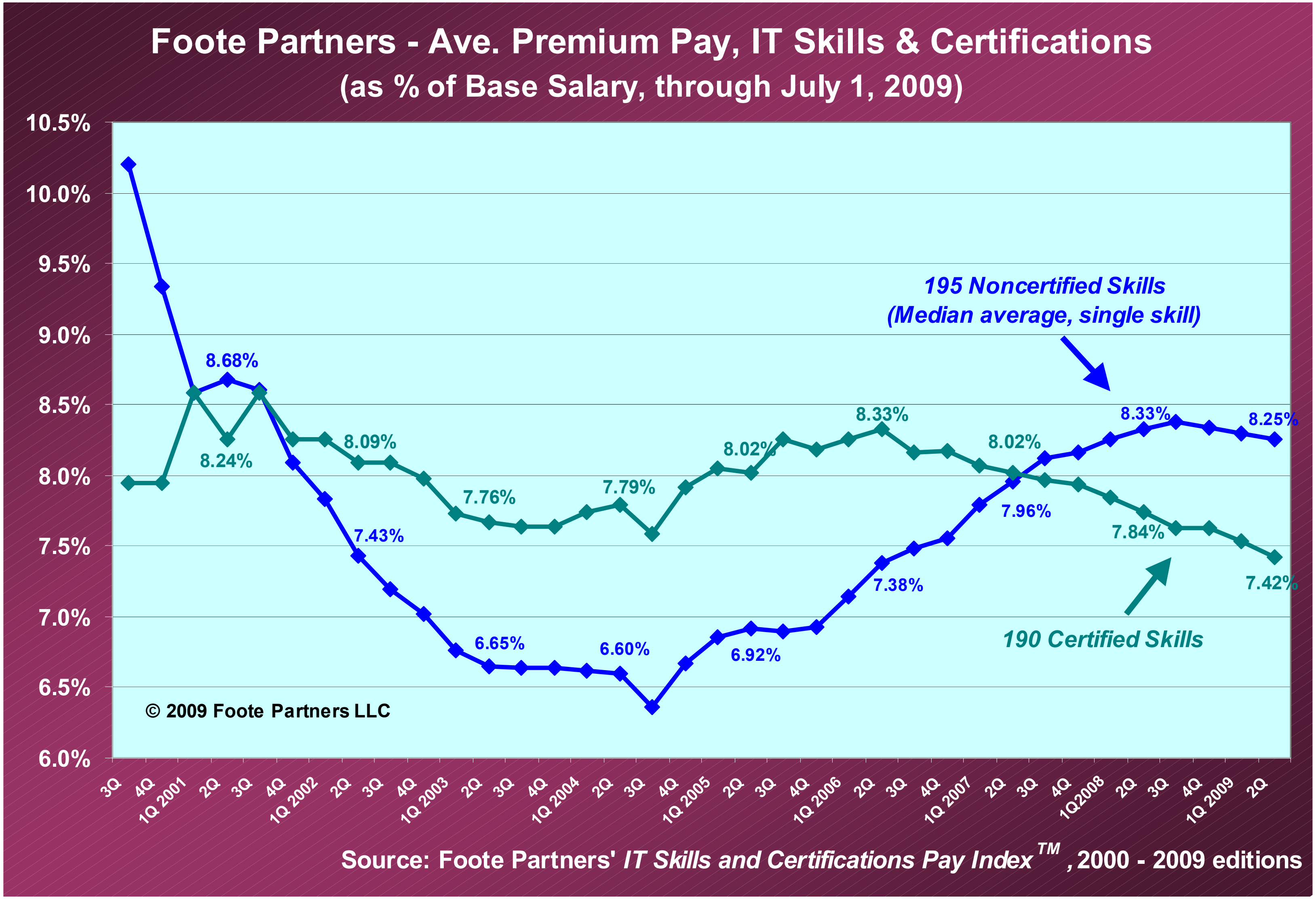
IT Skills and Certifications Pay Index™
2Q 2009 Survey edition

Current market pay premiums for 385 certified and noncertified skills in these categories:

- **190 Noncertified Skills**:
  - Apps Development Tools/Platforms
  - Database
  - **Management, Methodology & Process**
  - Messaging/e-mail/Groupware
  - Operating Systems
  - SAP & Enterprise Business Applications
  - Systems/Networking and Communications
  - Web/e-Commerce Development

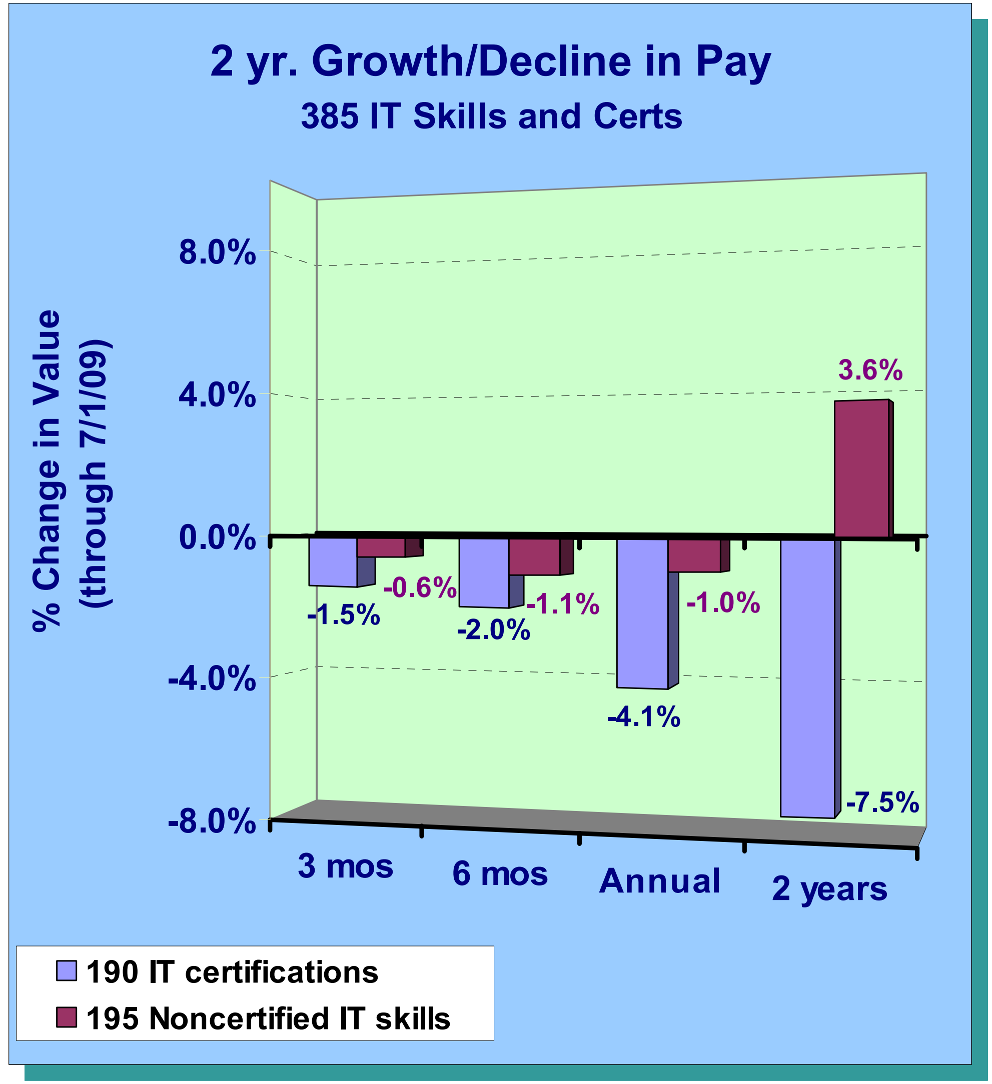
- **195 Certified Skills**
  - Applications Development
  - **Architecture & Project Management**
  - Database
  - General (beginner) and Training
  - IT Security
  - Networking and Internetworking
  - Systems Engineering/Administration
  - Web Development

What Are Individual IT Skills/Certs Earning?
Certified vs. Noncertified, 2000 to 2009



Pay for Certified vs. Noncertified IT Skills: 3/6/12/24 Month Trends (through 7/1/09)

- ✓ 385 IT Skills Surveyed (through 7/1/09)
- ✓ 22,234 IT professionals
- ✓ U.S and Canada



Source:
Foote Partners LLC, 2009 *IT Skills & Certifications Pay Index – Q2 2009 edition*

IT Skills/Certs Pay (through 7/1/09): Market Value Gains

- IT skills/certs value trending up (or flat) – last 3 mos.

Certified skills **(-1.5% market value)**

- IT Security
- Web Development
- ***Architecture & Project Management (no change)***

Noncertified skills **(-0.6% market value)**

- Web/e-Commerce
- ***Methodology/Management/Process***
- SAP & Enterprise Business Applications
- Operating Systems (no change)
- Application Development (no change)

Source:
Foote Partners LLC, 2009 *IT Skills & Certifications Pay Index – Q2 2009 edition*

IT Skills/Certs Pay (through 7/1/09): Market Value Losses

- IT skills/certs value trending down – last 3 mos.

Certified skills **(-1.5% market value)**

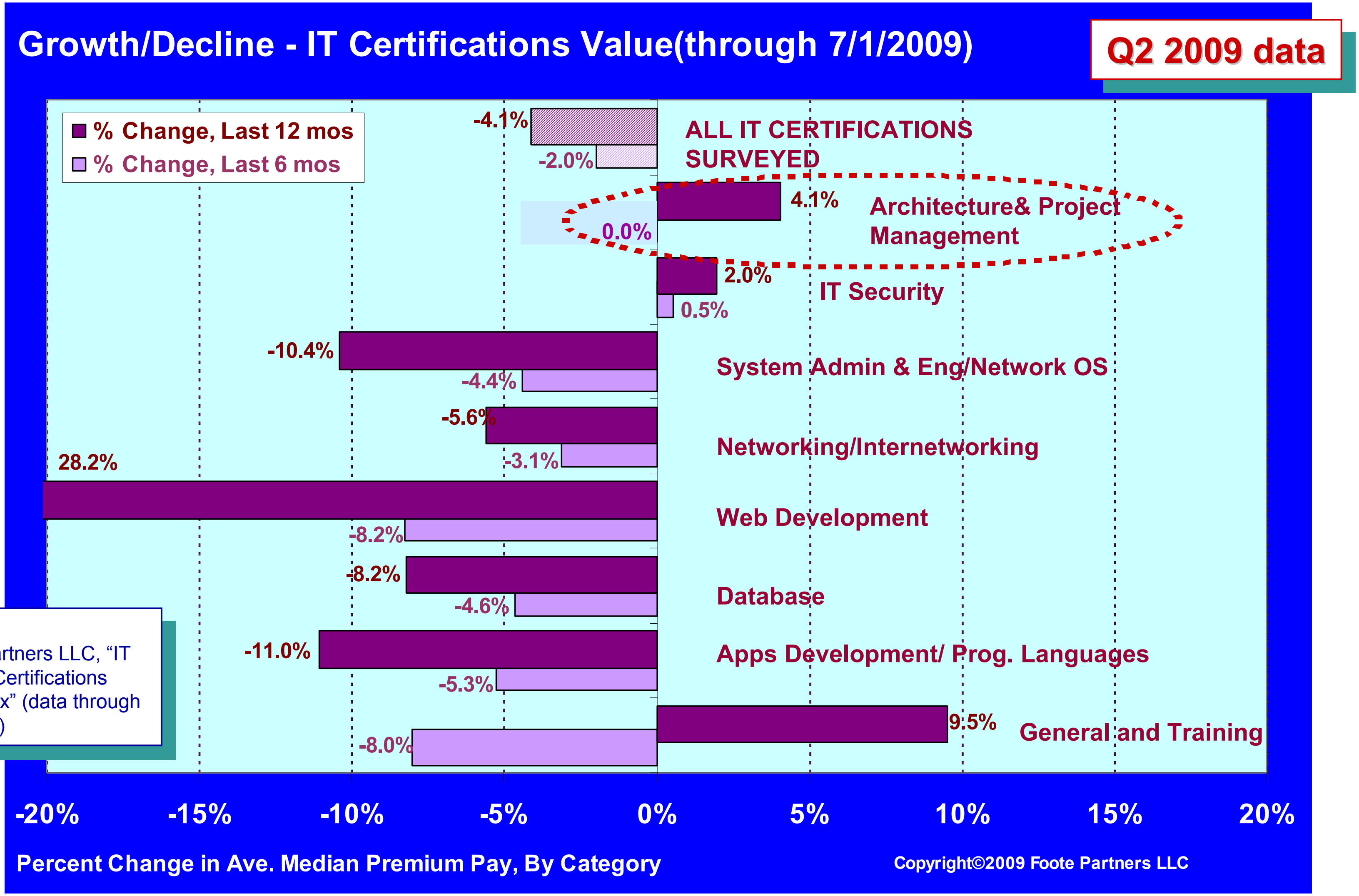
- Training & Beginners certs
- Networking
- Applications Development
- Database
- Systems Administration/Engineering

Noncertified skills **(-0.6% market value)**

- Messaging and Communications
- Systems/Networking
- Database

Source:
Foote Partners LLC, 2009 *IT Skills & Certifications Pay Index – Q2 2009 edition*

Certified IT Certs Pay: NOW



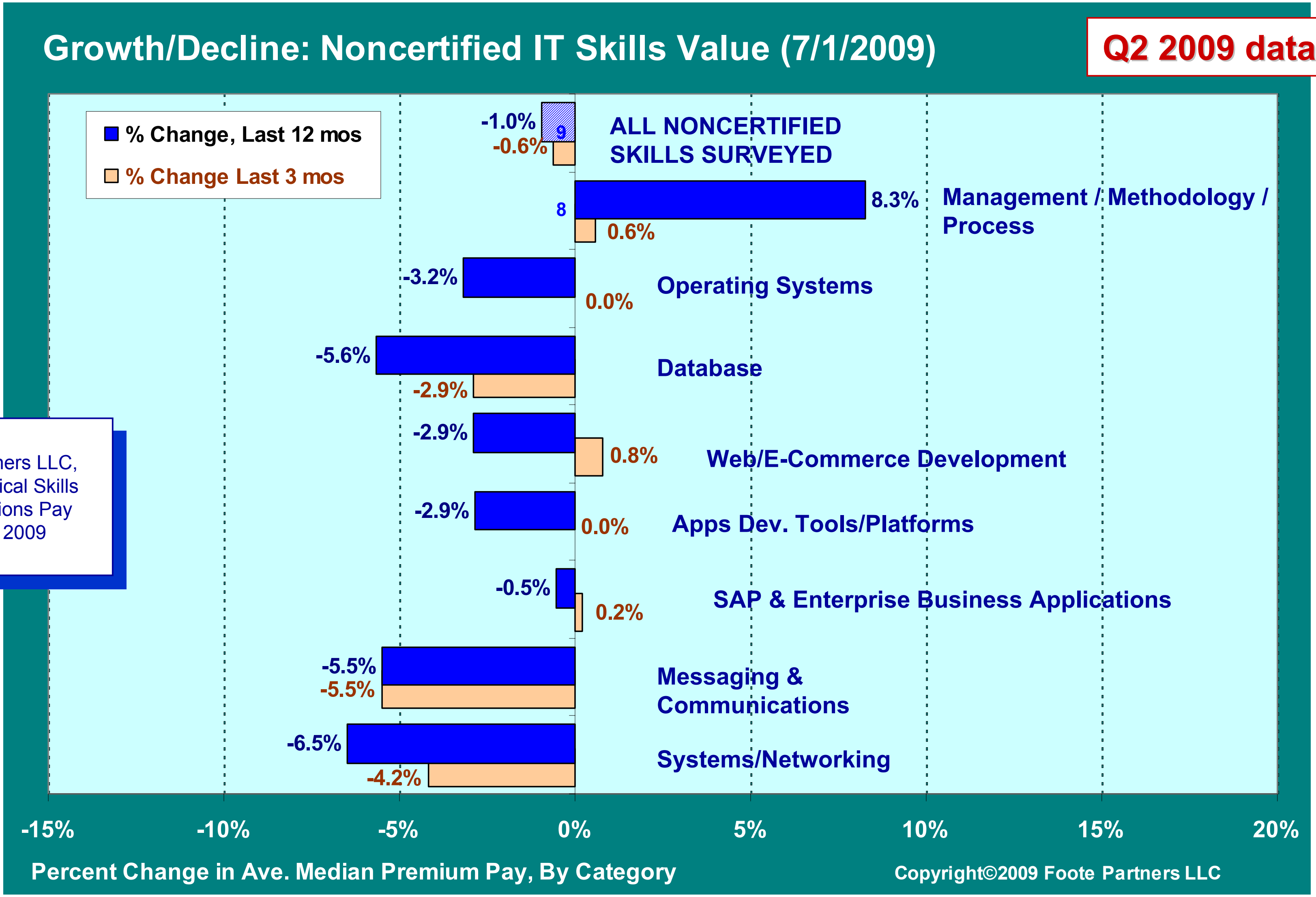
Source:
Foote Partners LLC, "IT Skills & Certifications Pay Index" (data through 7/1/2009)

Pay for Certified Architecture Skills:
3/6/12/15 Month Trends (through 7/1/09)

(surveyed through 7/1/2009) ARCHITECTURE CERTIFICATIONS	Skills/Certs Premium Pay - % Change in Value Last 3 mos	Last 6 mos	Last 12 mos	Last 15 mos
Check Point Certified Master Architect (CCMA)	9.1%	20.0%	20.0%	20.0%
Microsoft Certified Architect	9.1%	9.1%	20.0%	20.0%
Certified Information Systems Auditor (CISA)	9.1%	9.1%	-7.7%	-7.7%
IBM Certified Infrastructure Systems Architect	0.0%	11.1%	11.1%	11.1%
Citrix Certified Integration Architect (CCIA)	0.0%	9.1%	9.1%	9.1%
EMC Proven Professional Technology Architect - Expert	0.0%	9.1%	0.0%	0.0%
Security Certified Network Architect	0.0%	0.0%	na	na
EMC Proven Professional Technology Architect - Specialist	0.0%	0.0%	28.6%	28.6%
Master IT Certified Architect-Level 2 (ITCA/TOG)	0.0%	0.0%	16.7%	16.7%
SNIA Certified Storage Architect	0.0%	0.0%	10.0%	10.0%
InfoSys Security Architecture Professional (ISSAP/CISSP)	0.0%	0.0%	7.7%	7.7%
Certified Information Security Manager (CISM)	0.0%	0.0%	7.1%	7.1%
IT Certified Architect-Level1 (ITAC/TOG)	0.0%	0.0%	0.0%	9.1%
Project Management Professional(PMP)	0.0%	0.0%	0.0%	0.0%
Nortel Certified Architect	0.0%	na	na	na
Certified Information Systems Security Professional(CISSP)	0.0%	0.0%	-7.1%	-7.1%
Red Hat Certified Architect (RHCA)	0.0%	0.0%	-11.1%	-11.1%
Sun Certified Enterprise Architect for Java Platform	0.0%	-10.0%	0.0%	0.0%
BEA Certified Architect - SOA Enterprise Architecture	0.0%	-11.1%	-11.1%	-11.1%
ALL 190 CERTIFICATIONS SURVEYED	-1.5%	-2.0%	-4.1%	-5.4%

Source: Foote Partners LLC, 2009 *IT Skills & Certifications Pay Index – Q2 2009 edition*

Noncertified IT Skills Pay: NOW



Source:
Foote Partners LLC, "Hot Technical Skills & Certifications Pay Index – Q2 2009 edition"

Pay for Noncertified Architecture Skills:
3/6/12/15 Month Trends (through 7/1/09)

(surveyed through 7/1/2009) ARCHITECTURE SKILLS (Noncertified)	Skills/Certs Premium Pay - % Change in Value Last 3 mos	Last 6 mos	Last 12 mos	Last 15 mos
Project Management	7.7%	16.7%	16.7%	16.7%
Business process management/modeling/improvement	7.1%	15.4%	na	na
Infrastructure architecture	7.1%	7.1%	na	na
Business Analysis	0.0%	0.0%	14.3%	14.3%
ITIL	0.0%	0.0%	12.5%	12.5%
ALL 195 NONCERTIFIED SKILLS SURVEYED	-0.6%	-1.1%	-1.0%	-0.2%

Source:
Foote Partners LLC, 2009 *IT Skills & Certifications Pay Index – Q2 2009 edition*

What are the hottest IT skills *right now*, period?

The Foote Partners HOT LIST

Research and analytical input

- The latest edition of the ITSCPI
- Biannual IT Spending Survey
- Empirical findings from interviews with the executives and managers at our more than 1,900 research partners
- Analyses of vendors and product strategies
- Assumptions concerning technology evolution
- Economic indicators
- Cyclical patterns/historical market behavior
- Third party research (Department of Labor/BLS employment reports; Consumer Price Index, etc.)

Foote Partners HOT LIST (June 2009)
IT Certifications

1. GIAC Certified Incident Handler
2. **EMC Proven Professional Technology Architect – Expert**
3. **Citrix Certified Integration Architect**
4. HP/Master Accredited Systems Engineer
5. Cisco Certified Security Professional
6. **Check Point Certified Master Architect**
7. GIAC Certified Forensics Analyst
8. GIAC Certified Intrusion Analyst
9. EMC Proven Professional Implementation Engineer – Expert
10. GIAC Certified Incident Manager
11. EC-Council/Certified Hacking Forensics Investigator (CHFI)
12. IBM Certified Specialist - Storage Networking Solutions, Version 2
14. HP/Accredited Integration Specialist
15. Brocade Certified Fabric Designer
16. Cisco IP Telephony Design Specialist
17. Cisco Certified Design Professional
18. Sun Certified Programmer for Java
19. **Microsoft Certified Architect (MCA)**
20. **EMC Proven Professional Technology Architect - Specialist**
21. CWNP/Planet3 Certified Wireless Security Professional
22. **Security Certified Network Architect**
23. **SNIA Certified Storage Architect**
24. SNIA Certified Storage Networking Expert
25. Citrix Certified Enterprise Administrator

Non-Tech Skills Driving Jobs, Skills Demand

- Business analysis; enabling analytical skills (business technology)
- Functional area knowledge; specific business process/operations knowledge
- Industry-specific experience
- Collaboration, team building
- Vendor relationship management
- Project management, esp. global
- Strategic thinking, planning
- Problem solving
- Oral and written communications
- Ability to lead and motivate
- Negotiation skills
- Ethics and tolerance

Enterprise Architects

- Leadership/Influencing
- Strategic thinking
- Organizational politics
- Communications
- Emotional Intelligence
- Abstraction
- Negotiation
- Human factors, dynamics
- Listening
- Patience

Architect Workforce Demographics

Profile of IT Architects across all industries

- **Tenure/Employer**
  - 34% have worked for their employer 5 to 10 years
    17% (≤ 2 years)…17% (11+ years)
- **Tenure/Position**
  - 51% have worked in their present position ≤ 2 years
    11% (5+ years)
- **Department**
  - 48% work in an *Enterprise Architecture* or *DW/BI/Analytics* department…12 % are staff reporting to CIO/CTO
- **Age**
  - 23% are 35 – 39 yrs. old. 24% are 40-44 yrs   27%: 45+ yrs
- **Gender:** 84% male

Source: Foote Partners/MDM Institute
Survey 117 respondents (2008)

Architect Workforce Demographics

Profile of Architects across all industries

- **Employer Revenues**
  - 28% work for employers with less than $1 billion/annual revs
  - 32% ($1 to $10 billion)
  - 33% ($10 billion+)

Source: Foote Partners/MDM Institute
Survey 117 respondents (2008)

EA Workforce Demographics

Enterprise Architect Profile

- **Average age:** 30 to 40 years old
- **Salary:** 50% earn $110K - $150K
- **Education:** 50% peaked with Bachelor's degree
- **Job tenure:** 5 – 10 years average
- **Gender:** Primarily "male" domain
- **Job Path:**
  - 30% evolved via "Architecture Group"
  - 25% evolved up as previous Directors of IT or Technology Services

*Source: Foote Partners/MDM Institute Survey 117 respondents (2008)

EA Workforce Demographics

Enterprise Architect Profile

- **Job satisfaction:** "fair to high"
- **Employment plans:** 42% want to stay at their employer…42% unsure, 16% ready-to-move

Common refrain:

"If any architect stays longer than 5-8 years at an employer, he is either 'coasting' or taking too freakin' long to transform the organization."

*Source: Foote Partners/MDM Institute Survey 117 respondents (2008)

FP Salaries: Enterprise Architect (US)

- 10+ years IT
- 6+ years architecture related experience, 3 in lead role

	25th	Average	75th
San Jose	$125,603	$146,004	$167,285
San Francisco	$124,170	$144,338	$165,376
New York City	$118,221	$137,423	$157,453
Boston	$116,707	$135,663	$155,437
Lower Fairfield Cty,CT/Westchester Cty, NY	$116,688	$135,640	$155,410
Los Angeles	$115,437	$134,187	$153,745
New Jersey/Northern	$113,036	$131,396	$150,547
Houston	$111,185	$129,244	$148,081
Washington DC	$110,444	$128,383	$147,095
San Diego	$110,134	$128,022	$146,682
Detroit	$109,414	$127,185	$145,723
Chicago	$109,290	$127,042	$145,558
Minneapolis	$108,271	$125,857	$144,201
Seattle	$108,133	$125,696	$144,017
Dallas	$107,732	$125,230	$143,483
Philadelphia	$106,670	$123,996	$142,068
St. Louis	$105,191	$122,276	$140,099
Atlanta	$102,402	$119,035	$136,385
Phoenix	$102,158	$118,750	$136,059
Miami	$101,189	$117,625	$134,769
NATIONAL AVERAGE (64 cities)		$123,473	
Bonus Range:	6%-12% of base		

Source: 2Q 2009 IT Professional Salary Survey, Foote Partners LLC

FP Salaries: Enterprise Architect (Can.)

- 10+ years IT
- 6+ years architecture related experience, 3 in lead role

	25th	Average	75th
Vancouver, BC	$119,009	$138,339	$158,503
Oshawa, ONT	$117,413	$136,484	$156,377
Windsor, ONT	$116,105	$134,963	$154,634
Toronto, ONT	$114,927	$133,594	$153,066
Mississauga, ONT	$114,194	$132,742	$152,090
Calgary, ALTA	$113,671	$132,134	$151,393
Hamilton, ONT	$113,174	$131,556	$150,731
Ottawa, ONT	$112,153	$130,370	$149,372
Edmonton, ALTA	$112,127	$130,339	$149,337
St. Catherines, ONT	$111,996	$130,187	$149,162
Kitchner, ONT	$111,735	$129,883	$148,814
London, ONT	$111,630	$129,761	$148,675
Montreal, QUE	$109,327	$127,085	$145,608
Regina, SASK	$106,946	$124,317	$142,436
Saskatoon, SASK	$105,664	$122,826	$140,728
Winnipeg, MB	$104,905	$121,944	$139,718
Halifax, NS	$104,826	$121,853	$139,613
Quebec City, QUE	$104,800	$121,822	$139,578
	(all salaries in Canadian dollars)		
NATIONAL AVERAGE (18 cities)		$129,420	
Bonus Range:	6%-12% of base		

Source: 2Q 2009 IT Professional Salary Survey, Foote Partners LLC

FP Salaries: Data Architect (US)

- 10 years data management
- 5+ years architecture related, slanted towards information and data mgt and exchange concepts/methods
- Design and implement complex logical data models and practices for data capture, data dictionary design and overall data integrity
- DQ control and auditing
- Data storage strategies

Source: 2Q 2009 IT Professional Salary Survey, Foote Partners LLC

	25th	Average	75th
San Jose			
San Francisco			
New York City			
Boston			
Lower Fairfield Cty,CT/Westchester Cty, NY			
Los Angeles			
New Jersey/Northern	ata available to EPA conference attendees on		
Houston	or by request from Foote Partners,		
Washington DC			
San Diego			
Detroit			
Chicago			
Minneapolis			
Seattle			
Dallas			
Philadelphia			
St. Louis			
Atlanta			
Phoenix			
Miami			
NATIONAL AVERAGE (64 cities)			
Bonus Range:	x% - x% of base salary		

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Ottawa, ONT			
St. Catherines, ONT			
Kitchner, ONT			
London, ONT			
Montreal, QUE			
Regina, SASK			
Saskatoon, SASK			
Winnipeg, MB			
Quebec City, QUE			
Halifax, NS			
	(all salaries in Canadian dollars)		
NATIONAL AVERAGE (18 cities)			
Bonus Range:	x% - x% of base salary		

FP Salaries: Information Architect (US)

- 10 years developing integrated systems across multiple H/W and S/W platforms; designing content classification schemes, taxonomies, advanced search and navigation functionality
- Enterprise content management and/or enterprise portal applications exp.
- Strong system development methodology skills

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Regina, SASK			
Saskatoon, SASK			
Winnipeg, MB			
Quebec City, QUE			
Halifax, NS			
	(all salaries in Canadian dollars)		
NATIONAL AVERAGE (18 cities)			
Bonus Range:	x% - x% of base salary		

Source: 2Q 2009 IT Professional Salary Survey, Foote Partners LLC

FP Salaries: Sr. Applications Architect (US)

- 10 years exp. in business system application design, development and installation. Full SDLC.
- 6+ years exp. designing and implementing advanced application architectures
- 3+ years AD language and RDBMS experience

Source: 2Q 2009 IT Professional Salary Survey, Foote Partners LLC

	25th	Average	75th
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Regina, SASK			
Saskatoon, SASK			
Winnipeg, MB			
Quebec City, QUE			
Halifax, NS			
	(all salaries in Canadian dollars)		
NATIONAL AVERAGE (18 cities)			
Bonus Range:	x% - x% of base salary		

FP Salaries: Applications Architect (US)

- 6 to 8 years exp. in business system application design, development and installation.
  Full SDLC.
- 4+ years exp. designing and implementing advanced application architectures
- 2 years AD language and RDBMS experience

Source: 2Q 2009 IT Professional Salary Survey, Foote Partners LLC

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Montreal, QUE			
Regina, SASK			
Saskatoon, SASK			
Winnipeg, MB			
Quebec City, QUE			
Halifax, NS			
	(all salaries in Canadian dollars)		
NATIONAL AVERAGE (18 cities)			
Bonus Range:	x% - x% of base salary		

Source: 2Q 2009 IT Professional Salary Survey, Foote Partners LLC

FP Salaries: Security Architect (US)

- 10-15 years prof. experience, with 7+ in IT security incl. policy (DHS, NIST), modeling, infosec regulatory compliance(PCI, SOX)
- Strong IT security technology knowledge
- Strong communicator and influencer

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	25th	Average	75th
San Jose			
San Francisco			
New York City			
Boston			
Lower Fairfield Cty,CT/Westchester Cty, NY			
Los Angeles			
New Jersey/Northern		ata available to EPA conference attendees on	
Houston		or by request from Foote Partners,	
Washington DC			
San Diego			
Detroit			
Chicago			
Minneapolis			
Seattle			
Dallas			
Philadelphia			
St. Louis			
Atlanta			
Phoenix			
Miami			
NATIONAL AVERAGE (64 cities)			
Bonus Range:	x% - x% of base salary		

Source: 2Q 2009 IT Professional Salary Survey, Foote Partners LLC

FP Salaries: Security Architect (Can.)

- 10-15 years prof. experience, with 7+ in IT security incl. policy (DHS, NIST), modeling, infosec regulatory compliance(PCI, SOX)
- Strong IT security technology knowledge
- Strong communicator and influencer

.

	25th	Average	75th
Vancouver, BC			
Oshawa, ONT			
Windsor, ONT			
Toronto, ONT			
Calgary, ALTA			
Mississauga, ONT	ata available to EPA conference attendees on		
Hamilton, ONT	or by request from Foote Partners,		
Edmonton, ALTA			
Ottawa, ONT			
St. Catherines, ONT			
Kitchner, ONT			
London, ONT			
Montreal, QUE			
Regina, SASK			
Saskatoon, SASK			
Winnipeg, MB			
Quebec City, QUE			
Halifax, NS			
	(all salaries in Canadian dollars)		
NATIONAL AVERAGE (18 cities)			
Bonus Range:	x% - x% of base salary		

Source: 2Q 2009 IT Professional Salary Survey, Foote Partners LLC

FP Salaries: Director, Architecture (US)

- 12+ years varied programming, systems analysis, and project management experience including object oriented and database technologies.
- 8+ years experience in planning/architecture development and support.
- 6 or more years database design experience.

	25th	Average	75th
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Quebec City, QUE			
Halifax, NS			
	(all salaries in Canadian dollars)		
NATIONAL AVERAGE (18 cities)			
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Governance: Up to Bat

- Convergence of Web 2.0 and SOA
- SOA has gone goes "guerilla" (incremental, bottom up)
- The regulation and compliance locomotive
  - IT governance, IT risk management and IT compliance (GRC) continues to converge into one discipline
  - But it is moving v-e-r-y s-l-o-w-l-y
  - Greater attention paid to metrics, staffing and organizational structure
- Greater focus on data elements in risk scenarios (quality, management, governance, etc.)
  - MDM market: $4B by 2012

Data Governance, Stewardship Roles & Responsibilities

Data Governance

Data Stewardship Steering Team
Oversight, information policy, funding, data quality measurement targets, stewardship program

Global Expertise Center
Vision, direction, technology and support services needed to continuously improve quality of Master Data

Strategy/Corporate view

CMITs
- Prioritizes and funds project
- Verifies designs meet business requirements

Enterprise Data Architect
- Data strategy
- Reconcile work process views
- Maintain corp. model, principles & standards
- Maintain processes in data

IT Data Focal Point
- Architecture compliance in projects
- Initiate potential new Data Objects
- Manage Data Subjects

Definition/Rules

System Architects
- Address issues, data designs support all requirements

Data Owner/Delegate
- Management ownership of data definition/rules for a data subject leveraged across corporation

Data SME
- Implementation of data, definition, rules, operating discipline
- Support of Data Stewards

Content/Execution

GEC Focal Points
- Business accountability for timely, correct, accurate data in the business/function

Business/Function Data Expert
- Fulfills responsibilities of a Data Steward
- Supports other Data Stewards

Business/Function Data Steward
- Input of data in accordance with rules
- Front line accountability for data quality

Data Consumer **External Customer**

Some Thoughts on Enterprise Architect Barriers

- Many EAs live in a siloed world, funded by business silo, and expected to bridge silos with 'nickel and dime' funding ("Security guards with flashlights and no gun")
- Disconnect between IT leadership and EA governance
  - Short-term operational demands vs. 'over time' optimization, flexibility, debt reduction, investment productivity
- EAs will have to go through various stages of maturity before their job potential is fulfilled, similar to the CIO's journey

Some Thoughts on Enterprise Architect Barriers

- EA job not defined will enough to model and operate a successful EA organization
  - Role, scope, charter not well-defined
  - Expectations too high
  - Confusing EA with PM or SW development
  - Succumbing to dogma, silver bullets, over-reliance on standards
  - Wrong/no levels of abstractions

CIOs and EARelationship

The fortunes of Enterprise Architects are, more or less, tied to those of CIOs who are tasked with leading IT/Business integration and transformation.

Many of the CIO agenda items on the following pages will become tasks for the EA to assist in accomplishing over the next ten years..

CIO Agenda: Next 1-2 years

- Recessionary spending on services, projects, staff
  - More insourcing, investment in productivity technology (e.g., vitualization, BI/data mining, collaboration/workflow, enterprise content mgt,)
  - Investment in infrastructure management, databases, applications servers, integration applications, customer-facing applications, among others
  - Cutbacks: PCs, PDAs, upgrades (OS, software), office productivity stuff, traveling
  - Large initiatives safe
  - Selective staff reductions, retention schemes (esp. higher salaries)
  - Labor outsourcing to Latin America, Asia, Europe

CIO Agenda: Now

- Process improvement for productivity, service, cost reduction
  - Drives new/emerging tech investments in BPM, methodologies, process applications, multi-core processors, Web services, VoIP, virtualization, collaboration tools, etc.
- Virtualization mania
  - Enterprise deployment rates: 60% (servers), 40% (storage, PCs, applications)and climbing, despite common risks
  - $13.6B projected spending 2009 - 2011on servers partitioned for virtualization (68% of all server H/W spending) – CAGR = 41%
- Service-oriented architectures (SOA) and Web services
  - Difficulty in delivering cost savings (at this stage) are simply evolutionary road bumps to widespread adoption
  - SOA has gone “guerilla”
  - Long term: Need to better manage processes, stakeholder expectations

CIO Agenda: Next 1-2 years

- Open source software growth accelerates (Linux OS, DBMS, middleware, applications development)
  - 38% mid-market penetration (75% within two years). 27% penetration overall.
  - Drivers: High quality, low cost/new pricing standards, security, globalization
- Unified communications
  - IP telephony: 33% of all telephony extension line shipment in 2008…more than twice that by 2011
  - 17% penetration of communications convergence (2008)
- Boom in storage/storage area networks continues
  - Drivers: Legal requirements, disaster recover/business continuation, BI
  - Virtualization solutions

CIO Agenda: Next 1-2 years

- Security bubble continues to burst
  - Pressure on IT to step up after years of severe under funding: Ready for prime time or helplessly behind?

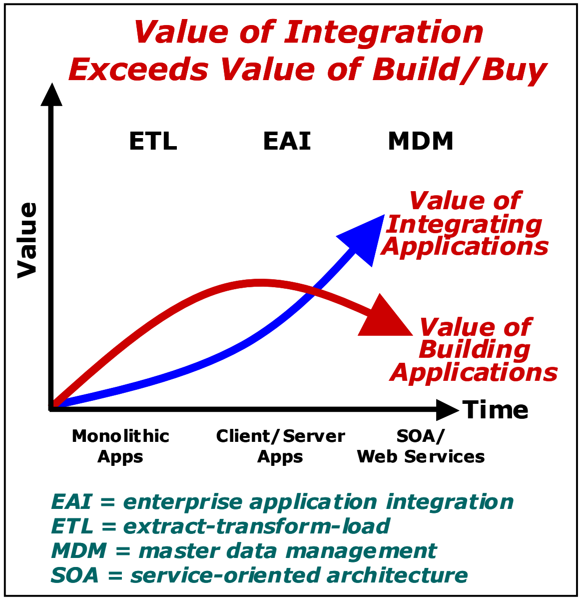
CIO Agenda: Next 1-2 years

- Corporate data governance (MDM/CDI)
  - Definition: Formal orchestration of people, process and technology to enable an organization to leverage data as an enterprise asset.
  - Data quality and integration has emerged as one of the new governance domains with huge potential for IT value add.
  - Challenges: Break down functional stovepipes; enterprise process integration; sell to managers at all levels

MDM critical success factors

- Data structures & business processes must be supremely flexible
- Underlying IT infrastructure must enable new business models
- Policies/process flows must integrate in ways previously problematic

Global competition mandates a wide variety of new business styles



CIO Agenda: Next 1-2 years

- IT focus on customer service and E-service components
  - Enterprise content management, data integration/tools, BI/analytics/data mining, customer self-service/CRM, SCM, web site performance
- Green IT train rumbles down the track
- M-commerce readiness
  - Retail sales via PDAs and smart phones proliferate
- Web 2.0 / Web Video
  - Fad or collaboration value add? Consider evolving demographics, consumerization before you answer.
  - 14.8% rise in annual spending (2008)
- Selective IT staff augmentation
  - Large employers: Management, planners, analysts, enterprise project and vendor managers, architects
  - Small-to-mid sized: Developers, tech support, PMs, niche IT skills

CIO Agenda: Next 1-2 years

- Expansion of strategic and operational CIO roles
  - In demand: Proven ability to restructure, streamline, architect, convert, inspire a wide array of stakeholders
- Flat World: expanding Asia/Pacific, Eastern European, South American business
- Innovation through relationship building
  - Consumers, business execs will lead CIOs to new ways to use technology in products and services…but you need to know how to cultivate each constituency
- Keep working on the problem of regulators, auditors, testers and business managers who operate at cross-purposes

CIO Agenda: Next 5 years

- Greater skills and responsibilities in risk management audits and simulations.
- Migrating from change agent to *change predictor* and *change shaper*
  - Linking assets in the corporate ecosystem; create efficiencies; provide direct value to customers
  - Proactively proposing and championing new products, services and strategies.
  - Involves fundamental redefinition and transformation of business processes
  - Deep relationship building with functional department and business units heads to build predictive 'chops'

CIO Agenda: Next 5 years

- Building the CIOs predictive 'chops'
  - Mindset shift
  - Assigning cross-functional groups to forecast emerging opportunities
  - Developing execution plans that include views of how other industries (outside their own) are using technology and changing processes to develop new products and services
  - Understanding how customers' worlds are changing, identifying their needs, building real time business information analysis skills
  - Understanding how their own industry is changing, how their organization is changing

CIO Agenda: Next 5 years

- Smart staffing investments are critical to getting there
  - Wizards and executors
  - Career focus in placing bets on people
  - Professional sports model: managers vs. players
  - Consistency and predictability

CIO Challenges/Opportunities: Next 10 years

- Consistency and predictability in execution (project delivery) will be a matter of survival.
  - 70% of all software projects undertaken by large, small, and mid-sized organizations come in over time, over budget, or not at all.
  - Capitalistic Darwinism: As more and more technology gets woven into the fabric of everything around us, the demand for quality and performance forces the issue of what is an acceptable level of financial risk to the business for managing IT poorly.
  - More of what is delivered in technology and software will have to be pre-assured. Innovation will not be enough; delivery will be king.
  - For CIO: "How can I guarantee that I achieve my deadline and lower my risks and manage my financial loss."

CIO Challenges/Opportunities: Next 10 years

- Absolute pushing out and pervasiveness of technology.
  - Need to look at total enterprisetechnology spend, not just IT
  - Merging of digital infrastructures will require better understanding of the economics of technology
  - "Dial-tone" reliability demand will drive quality, development, and performance to previously unthinkable levels

CIO Challenges/Opportunities: Next 10 years

- McKinsey's "cocreation" and "customers as innovators"
  - CIO's ability to deliver technologies and organizational structures for outsourcing innovation to business partners through value chain networks(or sharing that development with customers)
  - Revolutionizing development of new products by sharing control with outsiders (e.g., software, editorial content, durable goods) U.S. potential for cocreation: 12% of all US labor activity
  - Benefits of "customers as innovators": reduce customer acquisition costs; stronger loyalty; accelerate development cycles

CIO Challenges/Opportunities: Next 10 years

- Expanding automation to new tasks, services
  - Interlinking "island of automation" is still relatively new (EX: shippers linking internal tracking systems to the Internet for consumer self-servicing)
  - For CIO: Strike the right balance between customer satisfaction and technology delivery costs
- Unbundling production and delivery
  - Disaggregating systems into usable components, measuring and metering the use of each, and cost effectively billing for usage in ever-smaller increments (EX: Amazon.com's logistics and distribution services; fractional time-sharing of jets, cars, luxury items)
  - For CIO: Ability to scale, manage resource conflicts

CIO Challenges/Opportunities: Next 10 years

- Exploiting explosion of “rich” data
  - Another nascent trend: exploiting ever-greater amounts of data to make smarter decisions and develop the insights that create competitive advantages and new business models
  - For CIO: Broadening information access and increasing transparency while helping manage organizational politics and power games.

CIO Challenges/Opportunities: Next 10 years

- Next generation of global labor management practices
  - New talent deployment models: Allowing access to corporate labor pool to reduce costs, shift pay to "pay-for-results" schemes
  - For CIO: Requires advanced human capital capabilities (classification systems, talent disaggregaton/reaggregation)
- Improve productivity of "tacit" interaction activities
  - Tech tools are creating smarter/faster ways to create value through collaboration
  - McKinsey: By 2015, 44% of total US employees using some tacit interaction activities on-the-job
  - For CIO: Must sell the business case, create incentives and organizational values to drive adoption

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Foote Partners, LLC
Foote Research Group

www.footepartners.com

Foote Partners Information

Foote Partners LLC (est. 1997)

- Senior team of former Gartner, Meta Group, McKinsey & Co., and Towers Perrin analysts and consultants; former HR, IT, and business executives and managers
- **Focus:** Technology, HR and business drivers of IT workforce change; IT's impact on business revenues and customers
- **Source:** Research partnerships with 1,960 employers yields high quality validated, reliable benchmark and empirical data, updated regularly
  - Industry's most comprehensive and up-to-date IT skills pay survey
  - All primary research: no aggregated data sources

All products and services backed by a large proprietary research database and custom surveys/data collection methods.

Foote Partners LLC (est. 1997)

"IT Insider" Analytical Research Series

- Research engine continuously tracking IT pay, attitudes, and management practices at thousands of North American employers

2009 IT Workforce and Compensation Survey Publications

- IT Insider Professional Salary Survey™ reports (140 positions)
- IT Skills and Certifications Pay Index™ (385 certified/noncertified skills)
- IT Salary+Skills Pay Survey ™ reports
- IT Insider Workforce Trends Series™ reports
- IT Insider Professional Job Descriptions™

Foote Partners LLC (est. 1997)

Management Consulting / Custom Advisory Services

- IT Executive & Professional Compensation
- IT Management & Organization Services
- Outsourcing/Offshoring/Strategic Resource Management
- Market/Competitive Intelligence
- Workforce Performance Management
- Professions and Retention Services
- Enterprise Project Delivery
- Organization / Transition Management
- Corporate Strategy and Business Development

2Q 2009 Foote Partners Compensation Research Domain

Canadian Cities

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

Tier 1 Cities (U.S.)

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

Tier 2 Cities (U.S.)

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