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2017 TECH FORECAST

IT Sharpens *its* Focus

Tech Forecast 2017
Complete survey results

COMPUTERWORLD'S TECH FORECAST 2017 SURVEY aims to determine IT priorities for 2017 in areas such as spending, staffing and technology.

The survey was administered online between June 30 and Sept. 2, 2016. Technology professionals with IT management-level titles and above were invited to participate. Results are based on responses from 196 tech professionals, unless otherwise indicated.

Not all respondents answered all questions, and percentages may not add up to 100, due to rounding. Please note that sensitive demographic and organizational data collected in the survey is not included in this document.

QUESTION 1

What changes do you expect in your organization's IT budget in the next 12 months?

Increase	41%
Decrease	11%
Remain the same	48%

QUESTION 2

Please tell us about your organization's technology spending plans in the next 12 months:

	INCREASE	DECREASE	REMAIN THE SAME	THIS IS A NEW CATEGORY OF SPENDING FOR OUR ORGANIZATION
Application development, upgrades or replacement	33%	9%	58%	1%
Mobile applications	35%	5%	54%	7%
Bring your own device/ consumerization of IT	17%	7%	69%	7%
Data analytics (big data, enterprise analytics, data mining and business intelligence)	38%	3%	52%	7%
Software as a service (SaaS)	33%	5%	56%	6%
Infrastructure as a service (IaaS)	27%	7%	53%	13%
Platform as a service (PaaS)	24%	5%	56%	15%
Private cloud computing	27%	6%	58%	10%
Public cloud computing	22%	5%	60%	12%
Hybrid cloud computing	22%	5%	56%	17%
Collaboration tools/social media (including productivity software or LinkedIn, Twitter, Facebook etc.)	19%	10%	66%	5%
Data center consolidation/ optimization/modernization	28%	12%	57%	3%
Data management (data management, data warehousing)	22%	8%	67%	3%
Disaster recovery/ continuity planning	31%	9%	59%	1%
Energy-saving or carbon-reducing technologies	15%	10%	67%	8%
Hardware (includes servers, desktops, laptops/notebooks, storage and network, hardware)	24%	20%	56%	1%
High-performance computing (HPC)	14%	9%	63%	14%
Internet of things/M2M/telematics	18%	6%	56%	20%
IT/network services management	20%	12%	67%	2%
Legacy systems modernization/ replacement	26%	17%	54%	3%
Marketing technology	22%	8%	65%	5%

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	INCREASE	DECREASE	REMAIN THE SAME	THIS IS A NEW CATEGORY OF SPENDING FOR OUR ORGANIZATION
Mobile/wireless (includes RFID, remote access, Wi-Fi, mobile/wireless devices and mobile device management)	26%	7%	64%	3%
Security technologies (e.g., access control, intrusion prevention, virus/malware protection, identity management, privacy)	47%	4%	49%	1%
Software, on-premises (includes ERP, CRM, individual point applications, web services and service-oriented architecture, open source, operating systems, e-business software, content management tools, etc.)	23%	13%	62%	2%
Storage (includes network-attached storage, storage-area networks, etc.)	31%	13%	55%	1%
Unified communications (including email, instant messaging, telephony, etc.)	19%	11%	67%	3%
Video (includes videoconferencing, streaming video, etc.)	19%	8%	69%	4%
Virtualization (includes desktop, server, storage, network and mobile virtualization)	29%	6%	63%	2%
Other	33%	12%	45%	11%

QUESTION 3

What is the single most important technology project that your IT department is working on right now?

Security technologies (e.g., access control, intrusion prevention, virus/malware protection, identity management, privacy)	14%
Legacy systems modernization/replacement	10%
Software, on-premises (includes ERP, CRM, individual point applications, web services and service-oriented architecture, open source, operating systems, e-business software, content management tools etc.)	10%
Data analytics (big data, enterprise analytics, data mining and business intelligence)	7%
Software as a service (SaaS)	6%
Application development, upgrades or replacement (includes mobile apps)	5%
Disaster recovery/continuity planning	5%
Data center consolidation/optimization/modernization	4%
Private cloud computing	4%
Infrastructure as a service (IaaS)	3%
Hardware (includes servers, desktops, laptops/notebooks, storage and network hardware)	3%
Mobile/wireless (includes RFID, remote access, Wi-Fi, mobile/wireless devices and mobile device management)	3%
Hybrid cloud computing	3%
IT/network services management	3%
Platform as a service (PaaS)	2%
Public cloud computing	2%
Data management (data management, data warehousing)	2%
Storage (includes network-attached storage, storage-area networks, etc.)	2%
Virtualization (includes desktop, server, storage, network and mobile virtualization)	2%
Marketing technologies	2%
Collaboration tools/social media (including productivity software or LinkedIn, Twitter, Facebook, etc.)	2%
Bring your own device/consumerization of IT	1%
HPC (high-performance computing)	1%
Unified communications (including email, instant messaging, telephony, etc.)	1%
Energy-saving or carbon-reducing technologies	1%
Internet of things/M2M/telematics	0%
Video (includes videoconferencing, streaming video etc.)	0%
Other	4%

QUESTION 4

How would you describe the primary goal for your organization's single most important technology project?

To increase productivity	19%
To meet security, privacy or compliance goals	19%
To improve customer satisfaction/experience	17%
To generate new revenue streams or increase existing ones	16%
To maintain or improve expected service levels	16%
To cut costs	11%
Other	2%

QUESTION 5

Please choose the statement that best reflects your organization's strategy for cloud computing:

We have moved some enterprise applications to the cloud, with more to come	26%
We are moving our email, calendar, documents and storage to the cloud	13%
We have moved some enterprise applications to the cloud, and have no plans to migrate anything else	13%
We are moving some or all of our data center and/or networking infrastructure to the cloud	12%
We are moving mission-critical enterprise applications to the cloud	11%
We have always been cloud-based	5%
None of the above -- we are not moving to the cloud	21%

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QUESTION 6

Please give a letter grade to your cloud efforts in terms of returning business value:

A. We're getting excellent business value from our cloud efforts	15%
B. We're getting good business value from our cloud efforts	43%
C. We're gaining some business value, despite some roadblocks	31%
D. We're gaining very little business value from our cloud efforts	6%
F. We have seen no returned business value from our cloud efforts	5%

Base = 154 respondents using some type of cloud-based system

QUESTION 7

Which of these are business priorities for the IT department in the next 12 months?

Improving employee productivity/efficiency	47%
Improving customer satisfaction/experience	46%
Containing costs	44%
Optimizing and automating business processes	44%
Accelerating business process and agility	36%
Optimizing existing investments	33%
Improving collaboration with business	28%
Growing profitability	27%
Enhancing competitiveness	23%
Growing revenue	23%
Growing market share	16%
Attracting new talent	13%
Other	2%

QUESTION 8

In which technology areas are you now beta-testing or conducting pilot programs?

Big data/analytics	21%
Desktop virtualization	16%
Enterprise security	15%
Collaboration tools	15%
Internet of things/M2M/telematics	13%
Software as a service (SaaS)	13%
Private cloud computing	13%
Platform as a service (PaaS)	12%
Storage virtualization	11%
Hybrid cloud computing	11%
Mobile/wireless devices, including tablets and smartphones	11%
Server virtualization	10%
Marketing technology	10%
Mobile app development	10%
Public cloud computing	9%
Flash in the data center	8%
Infrastructure as a service (IaaS)	8%
Mobile device management	8%
Mobile virtualization	8%
Network virtualization	7%
Software-defined data centers	7%
Wearable technology	5%
Energy-saving or carbon-reducing technologies	3%
Other	3%
We are not beta-testing any technologies at this time	21%

QUESTION 9

What legacy platforms do you still support and hire for?

None	65%
DB2	13%
C	10%
Cobol	9%
Assembly language	8%
Perl	5%
Delphi Object Pascal	3%
Fortran	3%
REXX	3%
Pascal	2%
Other	9%

QUESTION 10

What percentage of your organization has undergone digital transformation (defined as applying digital technologies to organizational, operational and business model innovation to create new ways of operating and growing businesses)?

We are 100% digital	11%
More than 50%	40%
Between 50% and 25%	27%
Less than 25%	22%

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QUESTION 11

Please give a letter grade to your organization's efforts toward digital transformation:

A -- We're ahead of the curve	6%
B -- We're well into the process	39%
C -- We're keeping pace, despite some roadblocks	39%
D -- The process is not going well	11%
F -- We have made no progress	5%

QUESTION 12

In the next 12 months, do you anticipate launching an internet of things project?

Yes	12%
No	57%
We currently have an IoT project under way	12%
Don't know	20%

QUESTION 13

In the next 12 months, do you anticipate needing to add network bandwidth to your organization's infrastructure?

Yes	44%
No	34%
Not sure	21%

QUESTION 14

What do you expect will be your single biggest leadership challenge in the next 12 months?

Security	15%
Budget constraints/economic pressures	14%
Managing expectations/business alignment	13%
Managing projects	8%
Improving customer experience	8%
Managing personnel	7%
Generating revenue	6%
New application development	5%
Regulatory compliance	5%
Dealing with planned mergers or acquisitions	5%
Addressing the hiring/skills gap	4%
Outsourcing	2%
Managing vendors	2%
Increasing diversity in the workplace	1%
Defining a social media strategy/policy	1%
Developing an enterprise mobile management (EMM) strategy	1%
Other	4%

QUESTION 15

How would you describe your outsourcing strategy for the coming year?

We plan to outsource more projects.	20%
We plan to outsource fewer projects.	15%
We plan to keep our outsourced/in-house project ratio about the same as last year.	65%

QUESTION 16

Is cloud computing changing your approach to outsourcing?

Yes	30%
No	70%

QUESTION 17

Will the percentage of your budget allocated for contract labor increase, decrease or remain the same in the next 12 months?

Increase	19%
Decrease	14%
Remain the same	55%
Don't know	12%

QUESTION 18

What changes do you expect in your IT employee head count in the next 12 months?

Increase	29%
Decrease	15%
Remain the same	56%

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QUESTION 19

If you expect your IT employee head count to increase, which factors will account for that?

New systems, projects	61%
Corporate growth/systems expansion	54%
Security initiatives	30%
Addition of new tech hires with technology and business background and who can articulate IT's value in meeting business goals/needs	30%
Addition of competitive or unique services to increase ROI or business value	16%
Restoring staff due to improving economy	12%
Regulatory compliance demands	12%
Other	5%

Base = 57 respondents who plan to increase IT head count in the next 12 months

QUESTION 20

If you expect your IT employee head count to increase, for which types of skills will you be hiring in the next 12 months?

Programming/application development	35%
Help desk/technical support	35%
Security/compliance/governance	26%
Cloud/SaaS	26%
Business intelligence/analytics	26%
Web development	26%
Database administration	25%
Project management	25%
Big data	25%
Mobile applications and device management	21%
IT architecture	19%
Business strategy	19%
Data center	19%
Virtualization	18%
Networking	18%
Server administration	16%
Storage administration	12%
Telecommunications	11%
Marketing technology	9%
Vendor management	7%
Social business	4%
Other new skills	4%

Base = 57 respondents who plan to increase IT head count in the next 12 months

QUESTION 21

Which of these skills do you expect it will be most difficult to hire for?

Security	25%
Programming/application development	16%
Business intelligence/analytics	14%
Help desk/technical support	7%
Project management	5%
Database administration	5%
Networking	5%
Web development	5%
Cloud/SaaS	4%
Telecommunications	4%
Mobile applications and device management	4%
Business strategy	2%
Server administration	2%
Virtualization	2%
Marketing technology	2%
Data center	0%
Social business	0%
Vendor management	0%
Other new skills	0%

Base = 57 respondents who plan to increase IT head count in the next 12 months

QUESTION 22

How do you plan to address/manage around the skills your organization can't hire for?

Outsource more jobs/projects or hire contingent workers	49%
Increase current employee training	42%
Re-evaluate recruiting process	28%
Create flexible organizational/team structures and operating models	28%
Cancel projects or put them on hold	14%
Other	2%

Base = 57 respondents who plan to increase IT head count in the next 12 months

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QUESTION 23

If you expect your IT employee head count to decrease, which of these skillsets do you expect to be reduced or eliminated?

Help desk/technical support	48%
Server administration	41%
Programming/application development	38%
Data center	38%
Legacy systems maintenance/modernization	34%
Networking	31%
Database administration	28%
Telecommunications	28%
Project management	24%
Virtualization	14%
Business intelligence/analytics	10%
Business strategy	7%
Cloud/SaaS	7%
Mobile applications and device management	3%
Other titles or skills	3%
Security	0%

Base = 29 respondents who expect their IT head count to decrease in the next 12 months

QUESTION 24

Which of these disruptive technologies is most likely to have an impact on your organization in the next three to five years?

Big data/analytics	30%
Cloud/SaaS	29%
Self-service IT	22%
Mobile payments	20%
Internet of things/M2M	20%
Artificial intelligence/knowledge-based systems	19%
Next-generation Wi-Fi	18%
Virtual reality/augmented reality	16%
Location-based services	13%
Speech-recognition technology/digital assistants	12%
Software-defined enterprise	10%
Drones and robots	10%
Biometrics	9%
Wearables	9%
Advanced energy storage	7%
Self-healing systems	7%
3D printing	6%
Gesture-based interfaces	5%
Telematics	4%
Bots	4%
Other	3%

Methodology

Computerworld's **Forecast 2017 Survey on IT priorities** was administered online June 30 to Sept. 2, 2016. Among the professionals with IT management-level titles and above who were invited to participate were select domestic Computerworld, CIO and CSO subscribers; CIO Executive Council members; Computerworld Research Panel members; and Computerworld Forum and LinkedIn members.

Results are based on responses from 196 IT professionals, unless otherwise indicated. Not all respondents answered all questions. Percentages may not add up to 100, due to rounding.

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