Dear Executive Programs Member,

Gartner Executive Programs and IT Key Metrics Data would like to thank you for your interest in participating in this IT Spending & Staffing survey. To assist you in compiling your answers, this document contains a list of the questions that you will be asked, along with some additional definitions for the information required.

Please DO NOT try to complete the survey in this format, the survey can be completed online at:

http://surveys.gartner.com/s/ITKMD2016ExP

Or if you would prefer to complete and return the survey in Excel format, please email us at KMDINFO@gartner.com and we will be happy to forward you an Excel File.

Upon completion of this survey, and once the results have been analyzed, you will receive an Executive Assessment comparing the results you have submitted to your peers. Individual company data will remain confidential, and all data will be reported in an aggregate format.

If you have any questions please email or contact your Executive Programs service delivery associate, or email us at KMDINFO@gartner.com

Please note that the deadline for completing the survey is September 2nd, 2016.

Cordially,

Gartner's Executive Programs & IT Key Metrics Data

Privacy note: Gartner is dedicated to the right of your privacy and data security. We are committed to handling the information you provide responsibly. We will take every prudent and practical step to safeguard your personal information and its use. Your name and company name will not be released. Your responses will only be analyzed in combination with all other responses.

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Main Survey Questions
Survey Questions

General

Name:
Title:
Company:
Phone:
E-Mail:
Country:
Currency

Use the country where the largest amount of your organization’s operations exist.

Currency used to complete this survey

Question 1 – Demographics

What is your company’s primary industry?

Organizational scope - please place an "X" in which ever best describes the data being provided from your organization

Enterprise
Division
Business Unit
### Question 2 – IT Spending & Staffing

What is your organization’s TOTAL Cash Out IT spending/budget for:

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>Estimated 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Actual Currency)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **2015**
- **2016**
- **Estimated 2017**

Of your Cash Out IT spending/budget what percentage is for:

<table>
<thead>
<tr>
<th>Category</th>
<th>2016</th>
<th>Estimated 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Each Year Must Add to 100%

Of your Cash Out IT spending/budget what percentage is for:

<table>
<thead>
<tr>
<th>Category</th>
<th>2016</th>
<th>Estimated 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transform</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Each Year Must Add to 100%
## Of your Cash Out IT spending/budget what percentage is for:

<table>
<thead>
<tr>
<th>Category</th>
<th>2016</th>
<th>Estimated 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel Salaries &amp; Benefits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outsourcing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Cloud</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Personnel costs includes fees for contractors and consultants in addition to salaries and benefits.

Excludes Public Cloud and Transmission as these are included separately below.

Includes public cloud IT services, such as SaaS, PaaS, and IaaS.

Occupancy includes fully burdened costs for the facilities being used by the IT staff.

Transmission includes fees for voice and data network usage (call minutes, ports, etc.), dedicated access circuits and leased lines.

## Of your Cash Out IT spending/budget what percentage is from:

<table>
<thead>
<tr>
<th>Category</th>
<th>2016</th>
<th>Estimated 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal IT Budget</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Unit IT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shadow IT</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

For the purposes of this question the IT Department is defined as the formal organization headed by the CIO/senior IT leader of the entity being analysed. It also includes any IT organization reporting into them.

**Formal IT Budget**: IT spending that the IT department is accountable for. The IT Department is answerable for the provision of these IT Assets and Services.

**Business Unit IT**: IT spending where profit centres or overhead departments are accountable. For this category the IT department is consulted as a subject matter expert, and there is two-way communication.

**Shadow IT**: IT spending anywhere in the enterprise for which the IT Department is not accountable. For this category the IT department is aware of spending, but may not have detailed information about it. Amounts here may need to be estimated.

## What is the number of IT Full Time Equivalents (FTEs) in your IT organization and what percentage are contractors?

<table>
<thead>
<tr>
<th>Category</th>
<th>2016</th>
<th>Estimated 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent Contractors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Include both In-sourced and Contract FTE.
Question 3 - IT Security and Risk Management Spending and Staffing

What does your organization spend on:

 Include Annual Capital Investment & Operational Spend
 Do NOT include depreciation or amortization

Operational Infrastructure Security
Infrastructure Vulnerability Mgt and Security Analytics
Application Security
Governance, Risk, and Compliance Management (GRC)

Total

How many FTEs do you have for:

 Number of Full Time Equivalents (FTEs)

Operational Infrastructure Security
Infrastructure Vulnerability Mgt and Security Analytics
Application Security
Governance, Risk, and Compliance Management (GRC)

Total

0
What percentage of your IT Operational Infrastructure Security spending/staff is related to these functions:

<table>
<thead>
<tr>
<th>Function</th>
<th>Percent Spend</th>
<th>Percent FTEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity and access management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Network Security</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endpoint Security</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data security</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Question 4 - Outsourcing

How many FTEs are required to manage your IT outsourcing contracts? FTEs

How many outsourcing contracts do you have in place this year? number of contracts

Question 5 – Technology Function Areas

What are your organization’s total 2016 IT costs when EXCLUDING capital investments and INCLUDING operational expense & amortization & depreciation? (Actual Currency)

NOTE: We DO NOT expect this total to equal the IT Budget provided above
Of your 2016 IT costs above and your IT Staff above, what percentage is dedicated to:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage of Costs</th>
<th>Percentage of Staffing (FTEs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows Server</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Unix Server</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Linux x86 Server</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Mainframe</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Storage</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Data Center Facilities</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Unallocated Data Center</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>End-User Computing</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>IT Service Desk</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Voice Network</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Data Network</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Applications Development</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Applications Support</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>IT Management</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Finance &amp; Administration</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>%</td>
</tr>
</tbody>
</table>

Total 0% 0%

**Question 6 - Applications**

How is the total application costs distributed between:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-house Applications</td>
<td>%</td>
</tr>
<tr>
<td>Purchased Applications (licenses/customization)</td>
<td>%</td>
</tr>
<tr>
<td>Software as a Service</td>
<td>%</td>
</tr>
<tr>
<td>Total</td>
<td>0%</td>
</tr>
</tbody>
</table>

Total Application costs equals Application Development plus Application Support Costs
How is the application development costs distributed between?

<table>
<thead>
<tr>
<th>Systems of Record</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems of Differentiation</td>
<td>%</td>
</tr>
<tr>
<td>Systems of Innovation</td>
<td>%</td>
</tr>
<tr>
<td>Total</td>
<td>0%</td>
</tr>
</tbody>
</table>

Please answer all of the following questions in this section in relation to the last 12 months.

Total number of active development projects
Number of projects approved, but not started
Percent of projects completed on time
Average percent variance over planned lifecycle (indicate - or +)
Percent of projects completed within budget
Average percent variance over planned budget (indicate - or +)
Percent of approved projects cancelled prior to delivery

Percent projects perceived by customers as:
- % Did not meet expectations
- % Somewhat disappointing
- % Somewhat successful
- % Outstanding success
- Total 0%

Based on Application Development costs only

Typically these are projects that have been approved and assigned a tracking number, however no work is currently being done on them

- e.g. 30% of projects were delivered on time, per original plan
- e.g. on average, projects were 10% beyond originally forecast date
- e.g. on average, projects were delivered -10% below planned budget

Use the categories that best matches for each project
Relating to projects that were rated “Did not meet expectations” or “Somewhat disappointing” above, what percentage were rated that way for the following reasons?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functionality</td>
<td></td>
</tr>
<tr>
<td>Missed Schedule</td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0%</td>
</tr>
</tbody>
</table>

Use the categories that best matches for each project

How significant are the following issues in projects being late/over budget?

<table>
<thead>
<tr>
<th>Issue</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor Initial Scope</td>
<td></td>
</tr>
<tr>
<td>Scope Creep</td>
<td></td>
</tr>
<tr>
<td>Resource Availability</td>
<td></td>
</tr>
<tr>
<td>Technical Expertise</td>
<td></td>
</tr>
<tr>
<td>Shifting Priorities</td>
<td></td>
</tr>
</tbody>
</table>

Scale of 1-5 1=Not Significant, 5=Highly Significant
Definitions
Definitions - General

Revenue:
The enterprise revenue associated with the business units supported by the IT organization. For banking organizations, this should include total interest income plus noninterest income minus provision for loan losses, while insurance companies should use gross written premiums and other income.

Operating Expense:
The total expense associated with the business units supported by the IT organization. This includes items such as selling, general and administrative expenses, cost of goods sold (or cost of revenue), research and development, depreciation, and depletion and amortization expenses. For insurance, this includes underwriting expenses, loss and loss-adjustment expenses; for banking organizations, it includes interest expenses and noninterest expenses; for government and nonprofit organizations, it is represented by the enterprise operating budget.

Company Employees:
The count of employees (i.e., head count, excluding enterprise contractors and consultants), regardless of whether these employees are frequent users of the technology supported by the IT organization. This includes full-time and part-time employees, or as reported in the public record.

Cash Out IT spending/budget estimated at completion:
The best estimate of total spend at the end of the twelve month budget period for information technology to support the enterprise. IT spending/budget can come from anywhere in the enterprise that incurs IT costs, and it is not limited to the IT organization. It is calculated on an annualized “cash flow view” basis and, therefore, contains capital spending, and operational expenses, but not depreciation or amortization.

IT spending/budget includes (From a resource or cost perspective):
Hardware, software, personnel (including contractors, travel, benefits and training), outsourcing (external IT services like consulting, system integration, data and voice transmission, software as a service, infrastructure as a service), disaster recovery, and occupancy costs associated with supporting IT within the enterprise. Occupancy costs include fully burdened costs for the facilities being used by the IT staff supporting the enterprise. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies. Occupancy costs for space dedicated to IT functions, such as the data center, including power/heat management and raised floor, are also included. Spending also include all taxes (except value-added tax where it is recovered or refunded to the organization).

IT Budget includes (From an IT domain or activity perspective):
The data center (for example, mainframes, servers, storage), end-user computing devices (for example, desktops, laptops, tablets, thin client, and smartphones), voice and data
networks (including, but not limited to, voice and data transmissions, fixed and mobile telephony, and internet access services), IT service desk, and applications (for example, development and maintenance). IT support functions, such as the office of the CIO; supervisory management; finance and administrative costs, such as purchasing; asset management; process management; and marketing of IT services. Dedicated data processing equipment used in operations, production and engineering environments — examples are computer-aided design/computer-aided manufacturing (CAD/CAM) and standard computing equipment used in devices for factory automation, and tablet PCs used by healthcare professionals.

**Cash Out IT spending/budget does not include:**

Costs for technology or services that are resold. Examples include salaries for developers involved in building commercially packaged software, or IT-skilled employees who provide services for the organizations’ external clients; Operational technology that is Equipment-built or purchased for non-data-processing purposes, but which has computerized components. Examples include robotic manufacturing machines, automated teller machines, specialized point-of-sale devices, scanners and blood pressure monitors, sensors on a SCADA system; Appliance like or proprietary data processing equipment that has a single (typically industry vertical) purpose and cannot be used for other general purposes. A typical example is a computer that can only control the flow of electricity through the power grid. Since it cannot be repurposed it is not included in our model. Note that other systems which gather data from this type of computer and can be used for other purposes would not be considered operational technology, would be in scope; Depreciation or amortization expenses, which could lead to double counting from an accounting perspective; Internal “cross charges” and corporate allocations related to large and significant and or unusual one-time expenses such as reductions in workforce, redundancy, relocations, retirement, human resources and chairperson's salary, etc; Business data subscriptions and services (such as Bloomberg), even if they are managed by the IT organization; Business process outsourcing services (BPO) where organizations outsource entire business functions such as payroll or benefits management. This includes cases where the BPO vendor provides access to software, and also guarantees that the outcomes of their services will meet business requirements, such as tax and withholding regulations. Note: where a vendor provides Software as a Service and only guarantees that the software will perform as specified, then this is in scope of the IT spending/budget. Traditional outsourcing of IT functions, for example servers and email, are also still within scope.

**Operational IT Spend: IT Operational expenses:** Total day to day operations and maintenance expenses for this fiscal year that have not been capitalized. This does not include any amortization and depreciation expenses.

**Capital IT Spend: Capital Expenses:** Total capitalized IT spending for this fiscal year (that is, the full value of assets acquired in this fiscal year). This includes investments in new application development and infrastructure.

**Run the Business:** This is an indicator of how much of the IT resource is consumed and focused on the continuing operation of the business. It includes all non-discretionary expense as part of the run the business cost.
Grow the Business: This is an indicator of how much of the IT resource is consumed and focused on developing and enhancing IT systems in support of business growth (typically organic growth). Discretionary investments are more likely to be included in the grow the business or transform the business cost.

Transform the Business: This is an indicator of how much of the IT resource is consumed and focused on implementing technology systems that enable the enterprise to enact new business models. This is very much a "venture" category and would be represented by activities such as an insurer introducing usage-based insurance products such as telematics or a supermarket combining real time analytic monitoring with in-store task management to provide automated alerts to store staff to perform preemptive tasks.

Full Time Equivalents (FTEs): A FTE represents the logical staff to support functions performed by the physical staff, measured in calendar time. This includes all staffing levels within the organization from managers and project leaders to daily operations personnel.

In-sourced IT Full Time Equivalents (FTEs): Total number of in-sourced (in-house) full time equivalents who are employed by the IT organization. This includes all in sourced full time, part time, and temporary FTEs covered by the IT spending/budget defined above.

Contract IT Full Time Equivalents (FTEs): Total number of contract full time equivalents, which are supplemental to your staff and "operationally" managed by in-house staff. This includes all full time, part time, and temporary FTEs covered by the IT spending/budget defined above. This does NOT include staff that are provided, and "operational" managed, as part of an outsource agreement.

Infrastructure Operations and Software Engineering:
Encompasses the hands on fulfilment of day to day tasks related to IT Infrastructure, Applications Development and Applications Support.

This includes:

- Data Center and Network Operations Center activities including Production Control, Scheduling, Physical database administration, and “Console” monitoring of the IT Infrastructure.
- Resolving or taking action to preventing incidents, e.g. help desk support, repairing malfunctioning functioning hardware and software, applying patches.
- Service request fulfillment e.g. software deployment (electronic or manual), installation of new equipment and moves/adds/changes/deinstalls/removals of existing equipment.
- Production Control including turnover, scheduling, and monitoring.
- Programmer/Analyst" functions devoted to developing new applications, enhancing existing applications or maintaining currently operational applications.
- This includes all phases of development including conceptual design, systems design, programming and testing of individual programs.
- Logical database administration.
Technology and Process Management
Encompasses activities related to the technical and functional design of the IT Infrastructure and Applications environments. This includes
- Developing and administering processes for:
  - Change and release management
  - Technical performance monitoring and management
  - Capacity management
  - Systems/security management
  - IT disaster recovery
- Other functions, such as:
  - Infrastructure performance tuning
  - Infrastructure load balancing
  - Application packaging and scripting for distribution
  - Image development and control
  - Infrastructure development for the application development and support environment
  - Test lab activities (other than for software development)
  - Business analyst functions
  - Research and development (non-product-related)

Finance, Governance and Control
Encompasses administrative activities necessary to ensure the smooth functioning of IT Infrastructure and Applications. This includes functions such as:
- Financial management, budgeting and chargeback
- Service-level administration and overall performance management
- Procurement
- Asset and configuration tracking
- Contract and vendor management
- Product management
- Business unit relationship management and enterprise requirements management
- Training development and implementation (for IT professionals and end users)
- Project management
- Supervisory management
- Human resource management

Hardware Expenses: These include all hardware expenses described in the IT budget/spend definition.
Software Expenses: These include all software expenses described in the IT budget/spend definition.

Personnel Expenses: These include Salary and Benefits Expenses. These should include salary (including overtime pay), benefits and "other" employee costs, such as travel and training for all IT FTEs. The "benefit load" should include costs for bonuses, paid holidays, vacations, medical/dental coverage, life and accident insurance, retirement plans, stock plans, disability, Social Security, unemployment compensation, dependent care, tuition reimbursements and employee assistance programs (for example, physical exams, exercise programs and similar costs).

Outsourcing Expenses: These include the fees for third-party or outsourcing contracts in which "outsourcing" is defined as "any situation in which the full operational responsibility for IT services is completely handed over to an external service provider (e.g., subcontracting microfiche, print, maintenance, procurement, system management, equipment).

Public Cloud Expenses: These include charges for public cloud IT services. Gartner defines public cloud computing as a style of computing where scalable and elastic IT-enabled capabilities are provided as a service to external customers using Internet technologies—i.e., public cloud computing uses cloud computing technologies to support customers that are external to the provider’s organization. Using public cloud services generates the types of economies of scale and sharing of resources that can reduce costs and increase choices of technologies. From an organization’s perspective, using public cloud services implies that any organization (in any industry sector and jurisdiction) can use the same services (e.g., infrastructure, platform or software), without guarantees about where data would be located and stored.

Occupancy/Facilities Expenses: These include fully burdened costs for the facilities being used by the staff that supports the enterprise. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies. Occupancy costs for space dedicated to IT functions, such as the data center (including power/heat management and raised floor), are also included.

Transmission: This includes fees for voice and data network usage (call minutes, ports, etc.), dedicated access circuits and leased lines.

IT Operational Infrastructure Security includes the following:

- **Identity and Access Management** is the set of practices, processes and technology responsible for the management of digital identities and their associated access to resources. Specific IAM related activities are: user account provisioning, password management, user access administration (e.g. changes in roles, position or status (JML)), directory integration, single sign-on (SSO), Active Directory, remote access services, strong or multi factor authentication / two-factor (2FA) / three-factor (3FA), hard and soft token based authentication services, Public Key Infrastructure (PKI) and Federation type services, privileged user management (PUM), Identity and access governance (IAG) (inclusive of the processes for user access certification / re-certification, attestation, application access audits etc.), and cloud based identity services (e.g. IDaaS).
Network Security involves protecting computers and computer networks from attack and infiltration. Network security provides network protection through the restricting of network traffic, based on a set of policy defined rules. Network security provides protection at key ingress and egress points in the form of perimeters, segments and zones, typically defined and enforced by firewalls/NGFWs/firewall administration, Wireless Access Firewalls (WAF)s / RASP, Network Intrusion Detection & Prevention (NIDS and NIPS), Virtual Private Networking (VPN) concentrators, Hardware Security Modules (HSMs), Proxy Servers, Secure Email and/or Web Gateways, Unified Threat Management (UTM) appliances, Network Access Control (NAC) services, and Distributed Denial of Service (DDoS) protection and prevention services.

End Point Security covers the security services, capabilities and associated management and support thereof used in the protection of all end point devices such as desktops, servers, laptops and mobile devices which users leverage to access corporate data and information. Specific examples would typically include antivirus/anti-spyware/anti-malware software on PCs and servers, mobile device management (MDM), device encryption and management, Host Intrusion Detection & Prevention (HIPS), hardware based protection (e.g. personal firewalls), advanced anti-malware and threat detection software and also any physical security control in place for these assets (e.g. locks.)

Data Security is the means of ensuring that data has the adequate protection afforded to it in terms of keeping it safe from corruption, and loss, and that access to it is suitably controlled. Typical data protection capabilities: data discovery & classification, encryption/decryption of data "at rest", "in motion" or "in use" (incl. endpoint & bulk storage data encryption/decryption), digital certificate lifecycle management for digital signature based services, privacy enforcement techniques (data masking), database audit and protection (DAP) techniques, data loss prevention (DLP) services and data destruction, removal and erasure type services.

Infrastructure Vulnerability Management and Security Analytics includes

Infrastructure Vulnerability Management is the proactive identification and remediation of security vulnerabilities via dedicated vulnerability assessment and management products and services. These services typically scan enterprise networks (IP ranges) and establish a baseline and trending of vulnerability status of devices, applications and databases; identify and report on the security configuration of IT assets; discover unmanaged assets; support specific compliance reporting and control frameworks; support risk assessment and remediation prioritization; and support remediation by IT operations groups. which involves scanning (through resident agents on network-attached devices) of all internal and external facing target applications or devices for vulnerabilities, to determine if they are at latest available historic patch level. Service typically also includes periodic penetration testing, vulnerability assessments, asset auto discovery, generation of patch and vulnerability status compliance reports, vulnerability monitoring, and ticket raising.

Infrastructure Security Analytics are essentially a set of services delivered by a Security Operations Centre (SOC) or equivalent capability consisting of a centralized focal point of security specialists where enterprise information systems (web sites, applications, databases, data centers and servers, networks, desktops and other endpoints) are monitored, assessed, and defended, and action plans devised to counter any undesirable events detected. Typical security analytics services include security incident and event management (SIEM), monitoring & management (SIEM), managed log retention & analysis, user behavior analytics (UBA), threat intelligence
services, fraud detection and response services, digital forensics and cyber incident response services.

**IT Application Security** comprises of measures built into the development process to prevent the unauthorized access, theft, modification of or erasure of sensitive data through the exploitation of applications. Specific examples: the identification of security flaws in application design, development, deployment, upgrade, or maintenance through code assurance techniques such as black box analysis and testing, health checks, the use of static & dynamic application testing techniques (SAST/DAST/IAST) and application security frameworks, and/or via data obfuscation, filtering & masking, secure coding practices and software composition analysis (SCA) etc.

**Governance, Risk and Compliance** consists of the following 3 complementary practices:

- **Security Governance** which is defined generally as "cross-functional" security activities including the development and maintenance of security policies, standards & procedures, the communication of business values, culture & principles, security strategy & organization, training & awareness, documentation & guidance, communication plans, security service metrics, audit and compliance oversight, financial management of security services, security vendor management, security PMO etc. obligations. Compliance requirements can be derived from internal directives, procedures and requirements, or from external laws, regulations, standards and contractual agreements.

- **Risk Management** is defined as the function dedicated to ensuring that adequate controls are designed and implemented to mitigate the various risks associated with IT assets (including data), infrastructure, and processes. It includes activities such as periodic and annual IT audits (non-regulatory), risk assessment / monitoring, issue management & action tracking, and the development and execution of remediation plans. [NOTE: This category excludes all items in the IT Infrastructure Security, Applications Security or Compliance Management categories.]

- **Compliance Management** is the process of identifying, managing and reporting compliance activities related to organizational, commercial and regulatory compliance obligations. Compliance requirements can be derived from internal directives, procedures and requirements, or from external laws, regulations, standards and contractual agreements.

**FTE to manage IT outsourced contracts:** This is the ongoing management of outsourcer relationships to ensure that service providers are meeting contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures.

**In-house developed applications** are built mostly from scratch by internal resources.

**Purchased Applications** (licenses/customization) are packaged applications that are purchased from a third party and then customized for internal use.
Software as a Service (SaaS) is software that is deployed over the Internet. With SaaS, a provider licenses an application to customers either as a service on demand, through a subscription, in a "pay-as-you-go" model.

Systems of Record are usually found in business capabilities with a clear focus on standardization and/or operational efficiency; these are often subject to regulatory/compliance requirements.

Systems of Differentiation are typically related to business capabilities that enable unique company processes or industry-specific capabilities; these sustain the company's competitive advantage.

Systems of Innovation are new applications that are built on an ad hoc basis to address emerging business requirements or opportunities; these involve an experimental environment for testing new ideas and identify the company's next competitive advantage.

Applications Project
A Development Project is defined as an activity that will produce either new code for a new application, or functional enhancements to current code that take more than two person-weeks or typically add eight or more function points.

% Projects completed on time / % Projects completed on budget
On-time and on-budget is in relation to the original agreement with the customer at the time of approval and after a technical solution is defined.

Average on-time percentage
On-time projects completed divided by total projects completed within the year.

Schedule variance
Calculated as the extra days divided by total planned project duration.

On-budget percentage
Projects on-budget completed divided by total projects completed within the year.

Budget variance
Calculated as the amount over project budget divided by the amount of planned project budget.

Number of Projects approved but not started
Typically these are projects that have been approved and assigned a tracking number, however no work is currently being done on them.
Definitions - IT Functional Areas

The following sections provide guidance on how to count costs and FTE numbers, as defined by the scope of the technology domain questions (Q5 from the main survey). This includes costs associated to the operation, lease, maintenance, and depreciation of hardware, software, connectivity, disaster recovery, occupancy, and personnel to support the environment as defined below.

IT Costs when EXCLUDING Capital Investments and INCLUDING Operational Spend & Amortization & Depreciation.

This represents an "expense view" of IT spending, and includes depreciation and amortization, as well as the current year’s operational, lease and maintenance expenses. However, it excludes the full capital expense outlay of the given year, and reflects the total annual cost of the IT environment. NOTE: We DO NOT expect this total to equal the cash IT spending/budget total provided in the earlier part of the survey.

Windows servers, Unix servers, Linux x86 servers, and Mainframes

Hardware

- Processing Devices: Includes all hardware in server platform configurations, including internal disk storage (but NOT external disk arrays), processors, memory, cards, etc.

- Client Devices: This includes the equipment used by the operations staff to support the environment (e.g., desktops, laptops). However, this EXCLUDES all devices associated with storage, backup and retrieval of data.

Software

- Annual costs of software related to host and virtual OS licenses, virtualization and partitioning software, non-storage utilities, databases, middleware, content/document management search engines, messaging, communications (TCP/IP, FTP and host based), and server security software.

Connectivity

- Intra-data-center connectivity: This typically includes routers, switches, load balancers, controllers and appliances. Data center communication networks are dedicated networks that are segregated or isolated from the general-purpose LANs, or WANs. General-purpose or shared network costs are excluded and should be allocated to the data network.

- Inter-data-center connectivity: This typically includes the transmission cost and hardware cost for the fiber, used and unused (dark fiber), and the switches and controllers. Data center remote communication networks are dedicated networks that are segregated or isolated from the general-purpose LAN, or WAN. General-purpose or shared network costs are excluded from the data center and should be allocated to the data network.
Disaster Recovery
- Includes disaster recovery contracts (compute and communications) for hot sites (shell facilities), dedicated hardware, software and connectivity.

Occupancy (Non-Data Center Floor Space)
- Costs for the non-data center floor space being used by the staff supporting this environment including office space, furniture, electricity, maintenance, property taxes, security and office supplies.

Personnel
- Operations/maintenance, engineering technical services, planning and process management, service administration, and management and administration.

Storage

Hardware
- Storage Controllers, Storage Servers: All dedicated storage hardware devices including controllers, servers, disk arrays, tape libraries, optical jukeboxes
- Offline Supplies (Media): Portable media used to store data offline such as tapes.

Software
- Annual license costs of software dedicated to managing the storage systems. This includes creation and setup, storage maintenance, reporting, security, monitoring, backup/restore, archival, replication, media handling and data migration/tiering.

Connectivity
- Annual costs of dedicated storage network devices and cables/connections used solely for access to shared storage devices. If server traffic and/or storage traffic shares the general data network, it is excluded and would be included in our network analysis.
- Intra-Data Center Connectivity: Annual cost of communication devices specifically designed for intra-data center communication related to storage. Excludes the communications devices dedicated to disaster recovery and servers. This cost is associated with network devices dedicated to storage and their associated switches.
- Inter-Data Center Connectivity: Annual costs of dedicated inter-data center network connections, including fiber backbone links between data centers for backup/recovery/purposes, links for synchronous/asynchronous replication, and point to point remote backup. Excludes the communications devices dedicated to disaster recovery and servers.
Disaster Recovery
- Annual costs of hardware, software, connectivity, facilities and contracts specifically dedicated to disaster recovery storage management.

Occupancy
- Costs for the non-data center floor space being used by the staff supporting storage including office space, furniture, electricity, maintenance, property taxes, security and office supplies.

Personnel
- Operations/maintenance, engineering technical services, planning and process management, service administration, and management and administration.

Data Center Facilities
Facilities includes management of the physical data center premises, and other facilities and services associated with the premises such as furniture, power supply, heat management, climatization services, access security, floor space, office space, design and consulting.

Unallocated Data Center
Include any costs and staffing for IT equipment located in the Data Center that has not already been included elsewhere, examples would include Tandem and i-series. Enter zero if there is no additional IT equipment.

End-User Computing

Hardware
- User client and peripheral hardware: desktop, laptop, thin-client and tablet PCs, personal and shared printers, multi-functional printers (MFPs or MFDs), handheld devices such as smartphones, and messaging devices. Transmission costs for these devices are excluded and should be allocated to the data network.
- IT management hardware: This encompasses hardware that primarily supports an IT process, not a business or user process. Examples are test and training devices, servers hosting network and system management (NSM) or asset management software, and devices used by the IT staff supporting the end-user computing environment. This also includes supporting a hosted virtual desktop (HVD) installation.

Software
- User client software.
Personal productivity and database: This includes new word processors, spreadsheets, presentation packages, personal databases and other personal productivity software executing on client systems. It also include upgrades.

Messaging and groupware: This includes new and upgraded e-mail, groupware and collaboration software.

IT management software: This includes new and upgraded e-mail, groupware and collaboration software.

IT management software: This includes IT software that is used exclusively for IT functions including network, systems, storage and asset management, training and computer-based training (CBT) software as well as security software (antivirus, personal firewall, encryption, etc.) as well as mobile device management which offers software distribution, policy management, inventory management, security management and service management for smartphones and media tablets. This also includes supporting a hosted virtual desktop (HVD) installation.

Disaster Recovery

Annual costs of hardware, software, connectivity, occupancy and contracts specifically dedicated to disaster recovery for end-user computing.

Occupancy

Occupancy costs should include fully burdened costs for the facilities being used by the staff supporting the end-user computing environment. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

Personnel

Operations/maintenance, engineering technical services, planning and process management, service administration, management and administration.

IT Service Desk

Hardware

PBX, ACD, interactive voice response, computer-telephony integration, IT service desk end-user computing devices, and IT service desk application servers.

Software

This includes all software that is necessary to operate the service desk, such as expert knowledge tools, problem management tools, quality monitoring, self-service, workforce management software, workflow management software and service desk management portal software.

Occupancy
Occupy costs should include fully burdened costs for the facilities being used by the staff supporting the IT service desk. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

**Transmission**
- Includes inbound 800 service, dedicated trunking, local service, outbound long distance, Internet access (for example, IT service desk portal) and networking between IT service desks.

**Disaster Recovery**
- Annual costs of hardware, software, connectivity, occupancy and contracts specifically dedicated to disaster recovery for the IT service desk.

**Personnel**
- IT service desk agents, Operations/maintenance, engineering technical services, planning and process management, service administration, management and administration.

**Voice Network**

Note: Voice includes voice premise technology and wide-area voice network costs, as well as dedicated cellular (mobile) voice network costs.

**Hardware**
- Wide-area voice hardware: Switching and routing as well as terminating hardware. Terminating hardware includes microwave, satellite, compression, multiplexer/channel bank, PBX network interface card, channel service unit/data service unit (CSU/DSU).
- Voice premise: Telephone system equipment (voice switch/server and peripherals, including modules and uninterruptible power supply [UPS], etc.), premise system phones (voice only; smartphones such as BlackBerry, iPhone and Android-based devices are excluded and should be allocated to the end-user computing environment), voice mail hardware (for example, processors, storage) and message authentication control (MAC) materials.
- IT management (network operations center [NOC]): This includes hardware that is located within a client's NOC and is used to support a client's centrally managed voice infrastructure/network. This includes client devices (PCs on NOC desktops) as well as servers (NOC), located within the NOC or elsewhere, but used primarily by the NOC to support the voice network infrastructure. The costs for these client devices/servers may need to be prorated between voice and data services, depending on a client's NOC environment.

**Software**
- Switch/voice server and peripherals (e.g., automatic call distribution [ACD], voice response unit [VRU]) and voice mail software costs.
IT management (NOC): Software used by the NOC primarily to support/manage a client's voice networks. The costs for this software may need to be prorated between voice and data services, depending on a client's NOC environment.

Transmission
- Includes all outbound and inbound transmission costs. It also includes the annual cost for local central office lines (where applicable) as well as cellular (mobile) voice only transmission costs.

Disaster Recovery
- Disaster recovery contracts (communications) for hot sites (shell facilities), dedicated hardware, software, and connectivity.

Occupancy (For Personnel Only)
- Occupancy costs should include fully burdened costs for the facilities being used by the staff supporting the voice network service. Some examples would include office space, furniture, electricity, maintenance, property taxes, security and office supplies. Occupancy for hardware (e.g., closet space) is specifically excluded (i.e., occupancy costs should apply only to the people supporting a client's voice network).

Personnel
- Operations/maintenance, engineering technical services, planning and process management, service administration, management and administration.

Data Network

Note: Data network includes WAN, LAN and Internet Access Services (IAS), as well as dedicated cellular (mobile) data network costs:

- **WAN**: Connectivity and transmission of business-critical data between enterprise locations and business partners.

- **LAN**: Accounts for the provisioning of communications and connectivity to critical business systems within enterprise sites and campuses

  - Note: Costs associated with permanent building cabling, horizontal and vertical, are excluded. Likewise, costs for any interbuilding cabling (copper and/or fiber) that would be found on a campus are also excluded.

- **Internet Access Services (IAS)**: Enterprise access to the global Internet, for the use of its personnel and for the use of its external customers to access enterprise websites.

Hardware
Security hardware: Dedicated data network firewall hardware/servers, intrusion/detection servers and devices, as well as encryption hardware.

NOC hardware: This includes hardware that is located within a NOC to support a centrally managed data network infrastructure/network. This includes test equipment and remote monitoring equipment, client devices (PCs on NOC desktops) and network management servers (NOCs).

Switching, routing and wireless hardware: Includes switches and routers, multiplexers, satellite equipment, boundary (branch) routers, backbone routers and bridges, and wireless access points.

Other dedicated data network hardware, including Domain Name System (DNS) and Dynamic Host Configuration Protocol (DHCP) servers, optimization equipment such as Internet load-balancing hardware, UPS, MAC hardware and MAC cable (closet to desktop).

Some of the above may need to be allocated between the voice and data network.

Software

Security software: Dedicated data network firewall software, intrusion/detection software as well as encryption software.

NOC software: All NSM software costs related to the NOC's support of the data network infrastructure/network.

Transmission

Annual data network transmission costs, such as carrier digital services including Frame Relay access, ports and PVCs (Permanent Virtual Circuits), ATM (Asynchronous Transfer Mode) access, ports and PVCs, MPLS (Multiprotocol Label Switching) access, ports, and CARs (Committed Access Rates) which also includes specific charges for Quality of Service (QoS) commitments, sometimes referred to as traffic shaping, T3/E3, dial backup service, Synchronous Optical Network (SONET), metropolitan Ethernet, and dark fiber, as well as annual cost for circuits connected to the Internet service provider, and cellular (mobile) data transmission costs.

Disaster Recovery

Disaster recovery contracts (communications) for hot sites (shell facilities), dedicated hardware, software, and connectivity.

Occupancy (For Personnel Only)

These costs should include fully burdened costs for the facilities being used by the staff supporting the data network. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

Personnel

Operations/maintenance, engineering technical services, planning and process management, service administration, management and administration.
Applications

Application Development

- New code for a new application, and functional enhancements to the current code that take more than two person-weeks or that typically add eight or more function points. A "functional enhancement" is defined as "a change made for a user that allows additional capabilities (from a business point of view) that were not there before." In some environments, major enhancements actually can be added in less than two person-weeks. If this is the case, and if eight or more function points are added (about 800 lines of COBOL or 300 lines of a database language), then this enhancement is still considered as application development.

Application Support

- Bug fixes of any size or duration, maintenance of hard-coded data or tables (including field size changes) embedded within the programs (any size or duration), and functional enhancements to current code that take less than two person-weeks and typically add fewer than eight function points, or any project that produces no new business functionality for the user.

Hardware

- This includes only hardware (mainframes, servers, end-user computing devices) used by the application development or support staff members to do their jobs (that is, servers used for application development and testing, and a portion of the mainframe that is used for application development and testing). This excludes end-user or production hardware.

Software

- Development and support software required by the application development and support staff members to do their jobs. It may include the languages/compilers/databases, development/testing tools, tools such as project estimators, and project schedulers.
- Business functionality software: For application support, this includes the maintenance cost of off-the-shelf vendor packages, as well the annualized cost of the software.

Occupancy

- Fully burdened costs for the facilities used by the development or support staff included in this analysis view. Some examples would include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

Personnel

- Application development: This includes staff involved in developing new applications, enhancing existing applications, installing new packages and installing major functional enhancements to existing packages.
- Application support: This includes staff involved in supporting applications that exist within the current portfolio. It also includes personnel who are responsible for fixing programming problems uncovered when applications are running in production. It does not include any personnel who are responsible for running the production applications. If an upgrade for a packaged application primarily contains fixes for existing problems, then the efforts involved in installing such a maintenance upgrade are included in application support.

**Corporate IT Management**

Only include functions that are at a level within the IT organization that, after best effort, cannot be allocated to an IT functional area or “tower.”

- **Office of the CIO/CTO**
  - This includes the “C-level” IT management, including the CIO and CTO functions. Also included here are the direct reports of the CIO who spend the majority of their time providing enterprise-wide support other than the functions outlined below (that is, special projects).

- **IT Human Resources**
  - This includes resources dedicated to human resource issues surrounding the recruiting and retention of IT staff.

- **IT Marketing**
  - This includes resources dedicated to marketing the capabilities of the IT organization to the business units.

- **Technology Planning and Process Management**
  - This includes activities related to the planning for and management of current and future technology needs, and the establishment of policies and processes relating to technology. This also includes, but is not limited to, systems research, product management, technology evaluation and purchase decision making, the establishment of processes surrounding security and virus protection, and business continuity/recovery.

- **Disaster Recovery**
  - This includes resources dedicated to planning, testing and implementing contingency procedures across all IT functions. This also includes the staff dedicated to safeguarding the enterprise’s ability to continue operations of vital business functions following physical damage or other catastrophes that impact business facilities. Responsibilities include:
    - Maintaining disaster recovery documentation
    - Negotiating contingency site arrangements and serving as liaison with the vendor
    - Managing off-site data retention
Security

- This includes resources that oversee the development of standards and procedures for ensuring overall network and systems integrity.

Finance and Administration

Only include functions that are at a level within the IT organization that, after best effort, cannot be allocated to an IT functional area or "tower."

IT Administration

- This includes direct administrative and clerical support to enterprise-level IT. Positions include secretary, receptionist and administrative assistant.

Budget and Chargeback

- This area establishes the overall IT budget, monitors actual expenses vs. the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. Staff members also handle the operation of the chargeback system. Positions include financial analyst and chargeback administrator.

Asset Management

- Tracking: This area provides the administrative support for tracking systems and system components. It accounts for labor and contract costs for managing depreciation records and lease contracts, performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installations, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting and assigning assets, or performing other technical and business functions without the need to repeatedly visit the asset location or reassemble data records. It also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing the plan.

- Procurement: This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors’ bills, coordinates with accounts payable for payments and handles contract administration.

Quality Assurance

- This includes staff responsibility for monitoring, tracking and recommending solutions for improving the content and delivery of services provided by the customer service contact center.

Training
This refers to the primary source for the delivery of training within the IT organization and for end users in the business units. This area may also prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the organization.