**Information Technology Professional Services (ITPS)**

IT Service Categories



Currently Active Categories

The following are the current technical service categories of the ITPS program.

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| **No.** | **Category Name** | **WEBS Notification List Name** | **Status** |
| 01. | [IT Funding and Financial Analysis](#Funding) | ITPS\_08215\_01 | Activated 02/01/2016 |
| 02. | [IT Business Analysis](#Business_Analysis) | ITPS\_08215\_02 | Activated 02/01/2016 |
| 03. | [Continuity of Operations and Disaster Recovery](#COOP_Dis_Recovery) | ITPS\_08215\_03 | Activated 02/01/2016 |
| 04. | [IT Project Management](#Project_Mgt) | ITPS\_08215\_04 | Activated 02/01/2016 |
| 05. | [Project Quality Assurance](#Project_QA) | ITPS\_08215\_05 | Activated 02/01/2016 |
| 06. | [Software Testing](#Software_Testing) | ITPS\_08215\_06 | Activated 02/01/2016 |
| 07. | [Client/Server & Web Services](#Client_Server_Web_Svcs) | ITPS\_08215\_07 | Activated 02/01/2016 |
| 08. | [Database Services](#Database_Services) | ITPS\_08215\_08 | Activated 02/01/2016 |
| 09. | [GIS Services](#GIS_Services) | ITPS\_08215\_09 | Activated 02/01/2016 |
| 10. | [Infrastructure Services](#Infrasturcture_Services) | ITPS\_08215\_10 | Activated 02/01/2016 |
| 11. | [Mainframe Services](#Mainframe_Services) | ITPS\_08215\_11 | Activated 02/01/2016 |
| 12. | [Mobile Services](#Mobile_Services) | ITPS\_08215\_12 | Activated 02/01/2016 |

1. **IT Funding and Financial Analysis**

WEBS Notification List Name: **ITPS\_08215\_01**

IT Funding and Financial Analysis provides the state of Washington with the quantification, in financial terms, of the value of IT Services, the value of the assets underlying the provisioning of those services, and the operational forecasting. Forecasting and Budgeting IT services in tandem with business objectives helps identify, document and agree on the value of the services being received. Financial management as a strategic IT tool provides the same levels of financial visibility and accountability as the state agency business units and external counterparts. Much like their business counterparts, IT organizations within state agencies are increasingly incorporating financial management to facilitate enhanced decision making, service portfolio management, financial compliance and control, operational control, value capture and creation.

Skills and experience in this category include the following:

* Developing Information Technology Feasibility Studies following OCIO Feasibility Study guidelines.
* Developing Information Technology Investment Plans following OCIO Investment Plan policy and standards.
* Creating budget estimates with specific experience in systems developed in an Industry standard environment such as SAP, MS .Net or J2EE.
* Developing Decision Packages following the [OFM Decision Package Instructions](https://www.ofm.wa.gov/budget/budget-instructions).
* Working with large complex governmental accounting IT systems, including:
  + Developing procedures/methods; process improvement.
  + Implementing Total Quality Management principles and practices in an IT environment.
  + Developing and implementing new and revised workflows.
  + Writing the business and information systems procedures and documentation.

1. **IT Business Analysis**

WEBS Notification List Name: **ITPS\_08215\_02**

IT Business Analysis provides guidance on how to design, develop, and implement IT services, not only as an organizational capability but also as a strategic asset. The service strategy of any State Agency must be grounded upon a fundamental acknowledgement that its constituents do not consume products; they contact State Agencies to satisfy particular needs. Therefore, to be successful, the IT services provided must be perceived by constituents as sufficient value in the form of outcomes that the public wants to achieve. State Agencies use IT Business Analysis to set objectives and expectations of cost, performance towards serving the public, alignment with business functions, and to identify, select, and prioritize opportunities. Decisions made with respect to IT Business Analysis have far-reaching consequences. IT Business Analysis assembles, analyzes, and evaluates data to make appropriate and well-reasoned recommendations and decisions to support the business stakeholders and the project team. Excellent oral and written communication skills are required.

Skills and experience in this category include the following:

* Functional Analysis: Helping an organization to improve the way in which it conducts its IT functions and activities in order to reduce overall costs, provide more efficient use of scarce resources, and better support its customers.
* Needs Assessment: Working with Purchaser to fully understand the customer's business needs, identifying the IT solution that best meets those needs, and then designing the stream of processes to meet those needs.
* Business Process Improvement: Developing business process improvement (BPI) as a key strategy and a management tool to promote the effective use of technology throughout the organization, capable of supporting the organization’s vision, mission, goals and objectives.
* Business subject knowledge: Background knowledge of the IT subject to make the requirements gathering efficient, and a proven analytical framework from which requirements can be translated into business processes. The degree of prior knowledge required depends highly on the complexity of the IT project.
* Information Technology Service Management (ITSM)/Information Technology Infrastructure Library (ITIL): Experience with the processes, organization, and related tools of ITSM/ITIL in promoting a quality approach to achieving business effectiveness and efficiency in the use of information systems
* Requirements Analysis: Working collaboratively with Purchaser to identify business and technical requirements.
* Business Processes Mapping: Expertise in the modeling/mapping of business processes, conduct as-is/to-be business processes and documenting these through the use of tool sets such as Visio Professional, Aris Software, iGrafx Software and others.
* Project Management: Must be well-versed in IT project management practices and principles, must understand project management standards (e.g. PMBOK, Prince2, etc) and have knowledge of project management tools like MS-Project.
* IT Capabilities: Understanding of what IT systems and IT support staff can and cannot do.
* Feasibility: Analysis around how realistic the requirements are in terms of effort, time, costs.
* Relevance: Understand the purpose served by individual requirements in relation to larger business and/or project goals.
* Data: this area will usually focus on identifying what data the business currently has, and which of them need to be carried over into the new systems and/or analysis around what can be achieved with the data in a new system.
* Techniques: Collection and document requirements using UML, process flows, use cases, interview skills, workshop facilitation, and investigation of current state (existing systems and/or processes).
* Ability to assemble, analyze and evaluate data and to be able to make appropriate and well-reasoned recommendations and decisions to support the business stakeholders and the project team.
* Excellent oral and written communication skills are required.

1. **Continuity of Operations and Disaster Recovery**

WEBS Notification List Name: **ITPS\_08215\_03**

Continuity of Operations Planning (COOP) is defined as the development, maintenance, testing and training of documentation, plans, policies and procedures that are required to mitigate potential impacts and restore normal operations to organizations impacted by human-caused or natural outages or disasters. Disaster Recovery Planning (DRP) is a component of COOP and focuses specifically on the restoration of technical resources required to support essential business functions. Vendors in this category might assist agencies in the following activities or initiatives: development of all-hazards planning documentation; conducting risk analysis; conducting business impact analysis; developing or providing data protection, recovery, off-site storage and restoration services; conducting recovery exercise training and support; and providing or planning for recovery site services.

***Note:*** *Washington State Governor’s Executive Order 12-20, COOP, in part directs agencies to develop COOP plans to ensure performance of state agencies’ critical functions, including technology systems that support those functions, are possible when disruptions occur due to a disaster or emergency. The ICIO has documented Information Technology Disaster Recovery and Continuity of Operations Planning Policies, ICIO Information Technology Operations Planning Standards, and ICIO Information Technology Disaster Recovery and Continuity of Operations Planning Guidelines.*

Skills and experience in this category include the following:

* Providing Contingency & Disaster Recovery Planning services consistent with the ICIO Information Technology Disaster Recovery and Business Resumption Planning Policy, ICIO Information Technology Business Resumption Planning Standards, and ICIO Information Technology Disaster Recovery and Business Resumption Planning Guidelines.
* Experience with providing business continuity planning services.
* Experience with hot site and cold site Disaster recovery services.
* Applying best planning practices as defined by [Disaster Recovery International](http://www.drii.org) and [Disaster Recovery Journal](http://www.drj.com).
* Experience in working with executive management to explain recovery alternatives, their costs, and the benefits and Disadvantages of each alternative.
* Experience in conducting Disaster Recovery/Business Continuity (DR/BC) exercises to validate documented recovery plans, recovery strategies, processes and procedures.

1. **IT Project Management**

WEBS Notification List Name: **ITPS\_08215\_04**

Application of knowledge, skills and techniques to execute projects effectively and efficiently to achieve specific goals within an information technology environment based on the Project Management Body of Knowledge (PMBOK). Skills and experience in this category include risk identification and successful partnering with sponsors on scope, schedule, budget and quality.

Individuals in this skill category may do many of these tasks in a single assignment, or may provide specialized support in one or a few of the identified tasks as part of an IT project.

Skills and experience in this category include the following:

* Managing information systems projects consistent with the ICIO Information Technology Project Management Policy and ICIO Project Management Framework (Guidelines).
* Development of detailed IT project work plans and planning activities.
* Leading teams of IT technical staff.
* Defining team roles and responsibilities.
* Designing processes and methods that align with the Washington State Applications Template and Outfitting Model.
* Communicating with and facilitating decision-making among stakeholders.
* Defining project work to an appropriate level of detail.
* Assigning and monitoring completion of tasks.
* Managing IT budgets and project schedules.
* Acquiring staff and computing resources.
* Guiding and providing mentoring for IT project leaders and staff.
* Identifying appropriate technologies.
* Identifying project risks and ways to mitigate these risks.
* Writing IT feasibility studies.
* Developing plans for analysis, design, construction, testing, implementation, quality assurance, and systems acceptance.
* Implementing large-scale systems in a project-management role.
* Facilitating conflict resolution.
* Project status reporting and executive sponsor briefing.
* Communicating and coordinating with next-higher level of management on project.

1. **Project Quality Assurance**

WEBS Notification List Name: **ITPS\_08215\_05**

Project Quality Assurance focuses on project processes and ensures that they are used to produce quality deliverables through compliance with standards and continuous measurement and refinement of inefficiencies in those processes.

Quality assurance is the work of one or more professionals responsible for monitoring and assessing the health and effectiveness of project management plans and processes, assessing a project’s risk (short and long term), and reporting to the project’s executive sponsor and the state’s Chief Information Officer (OCIO).

Minimum qualifications required for addition to this category’s notification list in WEBS:

1. Recent (within the past five years) experience successfully performing QA technical activities such as development of detailed QA schedule, work plan(s) and planning activities, monitoring routine assessments, deliverables, issues, risks and generate reports and reporting to executives, OR
2. Recent (within the past five years) experience as a lead or deputy project manager providing the successful project management (PM) services such as development of detailed PM schedule, work plan(s) and planning activities, monitoring routine assessments, deliverables, issues, risks and generate reports, and reporting to executives, OR
3. A combination of prior QA or PM experience totaling five or more years.

**Note:** State purchasers reserve the right to modify minimum qualifications as appropriate to their individual project needs.

1. **Software Testing**

WEBS Notification List Name: **ITPS\_08215\_06**

Includes utilization of industry tool sets to validate full functionality of systems as well as interoperability with databases and both horizontal and vertical integration with other interfaced systems in accordance with industry standard best practices.

Skills and experience in this category include conducting investigations to provide information about the quality of the product or service under test; providing objective, independent views of the software to allow the Purchaser to appreciate and understand the risks of software implementations; and development of artifacts used in enterprise common testing/evaluation of information systems. Testing techniques include but are not limited to the process of executing a program or application with the intent of finding software bugs or other defects.

Skills and experience in this category include the following:

* Full understanding of testing processes & procedures and willingness to work within the Purchaser’s configuration management process.
* Development of artifacts used in testing /evaluation of information systems and tool sets used to validate full functionality of the system as well as interoperability with databases and both horizontal and vertical integration with other interfaced systems in accordance with ISO or industry standard best practices.
* Artifacts generated and used by vendors should include but are not limited to Standard Software Test Plans (STP), Standard Software Test Descriptions (STD) and Standard Software Test Reports (STR).
* Conduct of Load, Functional/ Regression and Conformance testing of information systems built around mainframe or Microsoft .NET, J2EE or other mainstream product lines.
* Providing guidance and mentoring to State staff on proper testing procedures.
* Planning, implementation, and testing of usability for Web sites and Web-based applications including: Web site effectiveness, efficiency, and satisfaction; user’s ability and time it takes to find information and complete services online.
* Experience with user-centered design including: Early focus on user tasks and needs; ability to observe, measure, and record a user’s behavior; and implement feedback using an iterative design process.
* Reviewing, testing, and providing recommendations for the improvement of web-based information and application accessibility using [Section 508 of the Rehabilitation Act Standards and the World Wide Web Consortium’s (W3C) Web Content Accessibility Guidelines (WCAG)](http://www.w3.org/WAI/standards-guidelines/wcag/).
* Using testing tools, in a Microsoft, Java based, or mixed N-Tier environment (Client Server /Web).
* Using testing tools in a mainframe environment (e.g. QABatch).

1. **Client / Server and Web Services**

WEBS Notification List Name: **ITPS\_08215\_07**

Services provided in this category would be in support of a client–server [distributed application](https://en.wikipedia.org/wiki/Distributed_application) environment architecture, n-tier architecture, and web services.

Resource skills and experience include the following:

* Design, development, and testing phases through to production implementation of code and/or applications required for single and multiple tier business applications/systems in distributed multi-user environments using software development lifecycles. (Resources needed: application development, systems analysis, security analysis, system administration, technical architecture.)
* Diverse environments including but not limited to UNIX/Linux server, Windows server operating system, Windows client, CITRIX-hosted client server, various internet browsers.
* Wide range of interface and communication protocols including Open Database Connectivity (ODBC)
* Full understanding and working knowledge of various query and scripting languages
* Experience implementing relational databases (Oracle, MS SQL, Sybase, MySQL, ADABAS, MS-ACCESS or other database engines.)
* Integrated development environments and tool sets (Microsoft, J2EE, etc.)
* Experience in developing technologies such as .NET, JAVA, IIS, WebServices, messaging, and middleware
* Experience in a wide range of vendor specific database applications

Technical skills and experience in this category include but are not limited to the following technologies:

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| * ADO.NET * AJAX * Apache/Tomcat * ASP.NET Web Controls * ASP.NET WEB Matrix * ASP.NET,C#.NET ,J#.NET, VB.NET * COBOL.NET * Cold Fusion Server * Content/Site Management Software * CSS (Cascading Style Sheets), AJAX, Reporting Services, and Cross-Browser/Cross-Platform * Delphi * DCOM and COM+ * HTML and DHTML * HTTP/HTTPS to presentation layer * Internet Information Server 6 * Java Script/Jscript/VB Script/ ECMAscript (client- and server-side) * J2EE, Java, JSP * JDBC * Linux * Macromedia MX * Microsoft Transaction Server (MTS) * Mobile Device Programming: .NET, MacroMedia, J2ME and MS-SQL CE | * MS Project Server * MS Sharepoint * MS SQL Server * MS Team Foundation * Natural * ODBC * OLE/DB * PHP * SAP (e.g. Business Suite, BASIS, Functional, HR, Portal Content, Configurator, Work Flow, Security, BI/BW, ESS/MSS, Payroll, e-Recruiting, Financials, Solution Manager, Web Dynero, TREX, Tidal Scheduler, Info Pak, etc.) * SharePoint 2003 and above * SOAP * SQL/ TRANSACT SQL/PLSQL * TCP/IP to data layer * Visual Studio .Net Enterprise Architect or note version * VRML, VML, SVG * Web Services * Windows 2000 Server * Windows 2003 Server * WSDL * XHTML,XML/XSL/XSLT, XML Schema and DTDs |

1. **Database Services**

WEBS Notification List Name: **ITPS\_08215\_08**

Services provided in this category would be in support of database development and multiple technology environments and architectures.

Resource skills and experience include the following:

* Design and development of logical and physical databases/schemas, testing phases, backups through to production implementation. (Resource/skillset needed: database development, data modeling, data analysis, security analysis, database administration, technical design/architecture.)
* Reviewing description of changes to database design to understand how changes to be made affect physical database (how data is stored in terms of physical characteristics, such as location, amount of space, and access).
* Defining and establishing physical database parameters and schemas.
* Optimize and tune databases for performance, define user access based on roles, testing and correcting errors, and refining changes to database.
* Generating scripts to create or modify database.
* Using utility programs to monitor database performance, such as distribution of records and amount of available memory.
* Conferring with coworkers to determine impact of data base changes on other systems and staff cost for making changes to database.
* Define, create, query, update and administer DBMS’s such as Oracle, IBM DB2, Sybase, [MySQL](https://en.wikipedia.org/wiki/MySQL), [PostgreSQL](https://en.wikipedia.org/wiki/PostgreSQL), and [Microsoft SQL Server](https://en.wikipedia.org/wiki/Microsoft_SQL_Server).

Technical skills and experience in this category include but are not limited to the following technologies:

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| * Adabas * BrioQuery * Business Objects * Crystal Reports * Clipper * DB2 * Delphi * Desktop DBA * ERwin & InfoModler * FASTPLUS * FileNet * FileMaker Pro * Focus * Forest & Trees * Fox Pro * HOLOS * HP UX * Hyperion * IBM-Informix | * Informatics * MS-Access * MS SQL Server 2000 & 2005 * MS Windows Server 2000 and 2003 * MVS/JCL * Oracle * Paradox * Plexus (Division of Banc Tec) * Power SQL & Power Designer * PowerViewer (Powersoft) * R:Base * Red Brick * Red Gate * SAP (e.g. Enterprise Applications, BASIS, Functional, HR, Portal Content, Configurator, Work Flow, Security, BI/BW, ESS/MSS, Payroll, e-Recruiting, Financials, Solution Manager, Web Dynero, TREX, Tidal Scheduler, Info Pak etc.) * SQL/Transact SQL/PLSQL * ODBC/JDBC |

1. **Geographic Information Systems (GIS) Services**

WEBS Notification List Name: **ITPS\_08215\_09**

Services provided in this category would be in support of a geographic information system (GIS). GIS is a system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data. [GIS applications](https://en.wikipedia.org/wiki/GIS_applications) are tools that allow users to create interactive queries (user-created searches), analyze spatial information, edit data in maps, and present the results of all these operations.

Resource skills and experience include the following:

* Expertise in the complete system development life-cycle from conceptualization through requirements definition, design, development, testing implementation, maintenance, and user training as it applies to Geographic Information Systems (GIS) related technology and data in support of State business needs. (Resource/skillset needed: GIS application development, data modeling, data analysis, security analysis, GIS administration, technical design/architecture.)
* Expertise with GIS software such as: ArcGIS, ArcObjects, ArcGIS Server and ARCIMS.
* Application programming expertise in such GIS programming languages as: C++, Visual Basic, Visual C#, Java, JSP, ASP, XML, GML and Cold Fusion.
* Expertise in this category also includes GIS database design, use of ESRI’s SDE, data conversion and management, Internet mapping and remote sensing.
* Providing GIS services consistent with the OCIO Geographic Information Technology Policy and Standards Process, OCIO Geographic Information Technology Standards for Horizontal Datum and Coordinate System, and OCIO Geographic Information Technology Standards for Metadata.
* Proficient in use of Information Engineering tools and methodologies.
* Completing conceptual, logical and physical data models using Entity Relationship and/or UML Class Diagrams.

Technical skills and experience in this category include but are not limited to the following technologies:

* ARCIMS Internet map server
* ARCGIS Server
* ERDAS Image Processing Products
* ESRI ArcGIS
* ESRI ARC/INFO and AML
* Microsoft Visual Interdev
* Microsoft .Net application languages including Visual Basic and Visual C#
* Microsoft Visual Basic for Applications
* Java/JSP
* Tomcat/Apache
* Other ESRI/Suite of products & tools
* IIS
* Apache/Tomcat
* Windows/Unix/Linux
* Python scripting
* Cartography and map production
* Advanced spatial analysis techniques
* Expertise with mobile computing and its application to GIS

1. **Infrastructure Services**

WEBS Notification List Name: **ITPS\_08215\_10**

Services provided in this category would cover Infrastructure Services including the network backbone, virtual environments, application layers, storage area networks, desktop services, and operations management.

Resource skills and experience include the following:

* Expertise in architecture engineering/design, planning, security, application protocol interfaces, provisioning, applications/middleware, storage, operations/maintenance, and desktop services. (Resources needed: technology architect, solution architect, security architect, operations management, network and desktop administration, and desktop implementation).
* Datacenter operations management for various infrastructure environments to include but not limited to configuration management, operations tools/applications, management of enterprise applications, office infrastructure relating to desktop support, remote help desk, internet connectivity, virtual environments, and disaster recovery methods.
* IT operations management and security software services — IT operations management (ITOM) software is intended to represent all the tools needed to manage the provisioning, capacity, performance and availability of the computing, networking and application environment. Security software is included to control and monitor access to internal and external IT resources.
* Experience in one or more categories of enterprise-level system integration, networking, Common Technical Infrastructure and Services, Web Portals, Service Oriented-Architecture (SOA), Business Process and Data Modeling, Data Standards, Security, Middleware, Data Warehousing, Web Development including Extensible Markup Language (XML), Data Security, Records Retention, and any other area related to EA planning and development to meet business needs.
* Developing or maintaining local and wide area networks through upgrades, application of technical knowledge, network administration, and management
* Other infrastructure software services — Other infrastructure software includes, but is not limited to, clustering and remote control software, directory servers, OS tools, Java license fees, mainframe infrastructure, and mobile and wireless infrastructure, as well as other infrastructure software.
* Various of operating systems knowledge include Linux, Unix, Windows and mainframe OS.
* Comprehensive knowledge and experience with server and/or mainframe operating systems, network protocols, and computer security. Experience with the following: Antivirus tools, Intrusion Prevention tools (behavior software), Active directory and single sign-on, and firewalls (i.e. Cisco).
* SAP Security & Authorization Administration with ECC, BI/BW, and Portal (SAP roles, profiles & authorizations; SAP Profile Generator), SAP User Administration & Provisioning.
* Installing and supporting logical firewalls, performing security vulnerability assessments, web application penetration testing, and security incident investigations.

1. **Mainframe Services**

WEBS Notification List Name: **ITPS\_08215\_11**

Services provided in this category would be in support of Washington State’s legacy mainframe systems.

Resource skills and experience include the following:

* Design, develop, test, debug programs, and other software utilizing automated tools in an IBM mainframe environment. (Resource/skillset needed: application development, data analyst, IMS hierarchical database design, and system administration.)
* Developing technical specifications for system changes and improvements.
* Identifying and analyzing data and developing reports and other communications to provide meaningful information for decision-making, prioritizing resources, responding to requests and for future planning; Identifying and analyzing risks associated with change, recommending mitigating measures and solutions
* Researching, developing, implementing, testing, documenting, monitoring and maintaining individual systems for the purpose of supporting and enhancing business functions.
* Converting data from project specifications and statements of problems and procedures to create or modify computer programs.
* Compiling and writing documentation of program development and subsequent revisions.
* Analyzing specifications, applying knowledge of computer capabilities, subject matter, and symbolic logic.
* Analyzing, reviewing, correcting defects, and rewriting programs to increase operating efficiency or to adapt program to new requirements.
* Assisting data center operator to resolve problems in running systems.

Technical skills and experience in this category include but are not limited to the following technologies:

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| --- | --- | --- |
| * AdaPREP * CANDE * CA7/CA11 * CICS * Cobol (Batch and CICS) * COMS * ADABAS * DB2 * VSAM | * Endeavor * EntireX * EOS (Enterprise Output Solutions * JCL * LINC * Message queuing software * TSO * IBM OS/390, Z/OS * AS400 | * Tandem * N200 * Natural & Natural 2 * OS/390 Assembler * REXX * Vision: Results (DYL280) * RPG * Websphere * SNA * IMS DB & TCP/IP |

1. **Mobile Services**

WEBS Notification List Name: **ITPS\_08215\_12**

Services provided in this category would be in support of design, development and implementation across iOS, Android, and other platforms of mobile and mobile web technologies.

Resource skills and experience include the following:

* Mobile application developers, software development engineer test (SDET), and security resources
* Various automation tools, SDKs, user-interfaces
* Continous integration and delivery environments; App deployment
* Object-oriented design, functional and / or protocol-oriented software development
* Experience with memory management, file I/O, multithread

Technical skills and experience in this category include but are not limited to the following technologies:

|  |  |
| --- | --- |
| * iOS, Android or other platforms * Java * .NET * .NET/C++ * JSON * SQL * XML | * CSS/HTML * PHP * Ruby * BLE * C, C++, C#, Objective-C * Automation Tools, SDK,UI |