Reference No. B-05-003

This Consultants Master Agreement, hereinafter referred to as the "Agreement" or "contract," is made by and between the State of Connecticut, acting by its Department of Information Technology/Contracts & Purchasing Division, hereinafter referred to as the "Customer," located at 101 East River Drive, East Hartford, Connecticut 06108-3274, and Hallmark TotalTech, Inc., hereinafter referred to as the "Supplier" or "Contractor," having its principal place of business at 1160 Silas Deane Highway, Wethersfield, CT 06109-4353.

The terms and conditions of this Agreement are contained in the following sections:

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DEFINITIONS

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- A. Contract User All Using State Agencies, Political Sub-Divisions, Municipalities and Non-Profits.
- B. Customer State of Connecticut acting by its Department of Information Technology.
- C. Statement of Work Detailed description of project.
- D. "RFP" as used herein, shall mean the Request for Proposal No. 04ITZ0007 issued by the State on April 16, 2004 concerning IT Professional Services.
- E. Small Business Enterprise (SBE) A company that has been under the same ownership and management and has maintained its principle place of business in Connecticut for a period of at least one year immediately following the date of application to the State of Connecticut Small Business Program with gross revenues of less than \$10,000,000 in the most recent fiscal year, and with 51% ownership held by person(s) who exercises the operational authority over the daily affairs of the business and has the power to direct the policies and management and receives the beneficial interests of the business.
- F. Minority-owned Business Enterprise (MBE) Meets the definition of a Small Business and, must be owned and operated by a person(s) who is a member of a minority group; and who has at least 51% ownership of the company; and exercises the operational authority over the daily affairs of the business and has the power to direct the policies and management and receives the beneficial interests of the business.
- G. Minority Minority is defined in Connecticut General Statute § 32-9n as:

Black Americans, including all persons having origins in any of the Black African racial groups not of Hispanic origin; Hispanic Americans, including all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture of origin; All persons having origins in the Iberian Peninsula, including Portugal, regardless of race; Asian Americans; American Indians and persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliation through membership and participation or community identification; A woman; An individual with a disability.

- H. "Product Schedule" as used herein, which is attached to this Agreement, shall mean that document which establishes the component or unit pricing, and price schedules and terms as applicable, for every Deliverable available pursuant to this Agreement.
- "Alterations" as used herein, shall mean modifications made by the State or the Ι. Department to any Deliverable thereby making such Deliverable non-conformant with Contractor design and/or operation specifications.
- "Deliverable" as used herein, shall mean any product, whether hardware, software, J. documentation, license, information or otherwise, or any service, whether development, integration, administrative, maintenance, operations, support, or otherwise, or any warranty, that is an element of the Supplier's overall approach and solution to the requirements of the Statement of Work, whether produced by the Supplier or by a third party such as a supplier or subcontractor to the Supplier, that is agreed to be provided to the State by the Supplier pursuant to this Agreement.

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In consideration of the mutual promises and covenants in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are acknowledged, the parties agree as follows:

1. CONSULTANTS

Upon acceptance of a proper purchase order issued by an contract user of the Customer, the Supplier shall provide to the contract user the consultant(s), hereinafter referred to as "Consultant(s)," as noted in the Classification of Consultants for the rates listed in the Product Schedule in accordance with the terms and conditions of this Agreement and in accordance with the provisions set forth in such purchase order. Any such purchase order shall contain, as a minimum, the following:

- a) Name of each Consultant
- b) Classification title
- c) Rate of payment and not to exceed amount
- Duration of required services of each Consultant (start date, end date) d)
- Project title and contract user location at which each Consultant will generally perform e)
- f) Statement of Work
- Contract user official or representative from whom supervision shall be received g)
- Address for submission of invoices h)
- Reference to this Agreement (Reference No. B-05-003) i)

2. TERM

This Agreement shall become effective upon its approval as to form by the Attorney General of the State of Connecticut, and shall continue for a term of (3) years with an option for (2) one (1) year extensions. Such optional extensions shall be exercised at the sole discretion of the Customer.

3. TERMINATION OF CONSULTANTS

a. Upon thirty (30) days' notice to the Supplier, by the issuance of a purchase Order Amendment, the contract user may reasonably amend any Purchase order and/or may terminate any Consultant noted in any Purchase order.

If in the opinion of the contract user the ongoing performance of any service provided by Supplier does not conform to the provisions of an issued purchase order, the contract user shall give Supplier written notice of performance deficiencies. Supplier shall then have not more than a ten (10) calendar day period to correct any such deficiency. If during this period such service performance level continues to be in nonconformance with the provisions of an issued and accepted purchase order, then Supplier shall be in default of this Agreement and the contract user at its option may thereupon, request Supplier to replace Consultant at Supplier's expense or terminate the Consultant without contract user penalty, further obligation or financial liability.

b. Completion of any services of any Consultant provided hereunder, or the contract user's failure to issue any purchase order hereunder, shall not terminate this Agreement. The intent of the parties being to leave this Agreement in effect for the term specified in Section 2.

Notwithstanding any provision or language in this Agreement to the contrary, the Commissioner may terminate this contract whenever he/she determines in his/her sole discretion that such termination is in the best interests of the State. Any such termination shall be effected by delivery to the Supplier of a written notice of termination. The notice of termination shall be sent by registered mail to the Supplier address furnished to the State for purposes of correspondence or by hand delivery. Upon receipt of such notice, the Supplier shall both immediately discontinue all services affected (unless the notice directs otherwise) and deliver to the State all data, drawings, specifications, reports, estimates, summaries, and

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such other information and materials as may have been accumulated by the Supplier in performing his duties under this contract, whether completed or in progress. All such documents, information, and materials shall become the property of the State. In the event of such termination, the Supplier shall be entitled to reasonable compensation as determined by the Commissioner of the Department of Information Technology, however, no compensation for lost profits shall be allowed.

4. SELECTION AND PERFORMANCE CRITERIA

a. The Supplier when responding to a request to provide a Consultant to any contract user shall be provided a Statement of Work or a resume request.

- i. This Statement of Work, unless modified in writing by the contract user, shall be the performance guide to be used by both the Supplier and contract user.
- ii. When receiving a resume request from any contract user, the Supplier must provide a minimum of three (3) resumes from qualified consultants within five (5) business days of the notification date. When submitting resumes, the Supplier must provide Form I-9 issued by the U.S. Department of Justice Immigration and Naturalization Service documenting each consultant's eligibility to work in the United States and a notarized copy of the most recent Ethics Contractor Affidavit Statement regarding gifts. Any resource requested must be available for deployment within one (1) week from date of purchase order unless otherwise agreed to by the parties hereto.

b. The contract user shall have the opportunity to interview and accept or reject any consultant recommended by the Supplier to provide services to that contract user.

c. The Supplier will comply with any contract user requirement for status reporting, management methodologies, related documentation, computer operations, standards, practices, and published security procedures.

d. The services of a consultant shall not be deemed completed until all aspects of the Statement of Work have been completed to the contract user's satisfaction (including implementation and post audit). Such approval shall be timely and shall not be unreasonably withheld.

5. ACQUIRING ADDITIONAL SERVICES

Supplier may supplement the Product Schedule at any time to make additional services available to the Customer, provided that the effective date of each supplement is stated thereon. Any supplement must be transmitted to the Customer with a cover letter documenting formal approval of the supplement by a Supplier representative then legally empowered to so act. The Product Schedule may be updated from time to time by the Supplier requesting the addition of a new service in writing to the State. The addition or upgrading of a service is conditioned upon the new service being of a similar nature and having a similar use as the services set forth in this Agreement and the written approval of the Customer.

6. CONSULTANT DATES OF SERVICE

No consultant services shall be provided to any contract user prior to the start date specified in the purchase order nor shall the services of a consultant continue beyond the end date specified in the purchase order unless such purchase order has been duly amended. No employee, officer, or representative of the Customer, including the contract user, or the Supplier may circumvent the intent of this section.

7. FINANCIAL CONSIDERATIONS

a. Work Day

The work day of the contract user is eight (8) hours unless otherwise stated in the purchase order, excluding breaks and lunch.

b. Computing Payments

The Customer shall allow billing for one-half (1/2) hour increments up to eight (8) hours in any one day. Overtime in a standard workday requires prior contract user written approval.

Revisions made in any Statement of Work shall be made in writing by the contract user to the Supplier. The Supplier will prepare a not to exceed estimate to incorporate the change into the project and a project impact statement to detail any project timeframes. Should such estimate be accepted by the contract user then the change will amend the Statement of Work. Payments for such changes will be made in the same manner as stated in the original purchase order.

c. Travel Time

The Customer shall not pay the Supplier for daily travel time between the consultant's place of residence and the place of work.

d. Expenses

The contract user shall not pay the vendor any out-of-pocket expenses incurred by a consultant for travel to the place of work. Reimbursement of travel expenses incurred at a contract user's request must be authorized beforehand, in writing, by the contract user. Payments shall not exceed the State's present prevailing reimbursement rates for State Managers.

e. Enhanced Training

The contract user shall not allow a consultant to attend training courses at the expense of the Customer, unless such courses are in the best interests of the contract user and is approved prior to entering into an agreement.

f. Personnel Movement Costs

The Customer assumes no liability, financial or otherwise, for the transportation of Supplier's personnel and their possessions into or out of the State of Connecticut.

g. Experience of Consultant

There shall be no upward reclassification of a consultant during the term of purchase order into a higher experience category for pay purposes.

All consultants deployed on assignments involving web site development or internet-based applications must be trained through a State acceptable program that offers certification for Universal Web Site Accessibility.

8. SUPPLIER REQUIREMENTS

a. Subcontractors

Supplier may only provide consultant(s) through a subcontractor which in turn is acceptable to the contract user. The responsibility for payment to any subcontractor hired by Supplier and agreed to by the contract user will rest solely with Supplier.

The Supplier warrants and represents that all consultants and/or subcontractors assigned to perform under this Agreement shall be construed as if they are full-time employees of the Supplier. The Supplier agrees to promptly provide specific supportive documentation of employment status as requested.

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b. Work Eligibility

Supplier is required to obtain and keep current the Employment Eligibility Verification Form I-9 issued by the U.S. Department of Justice Immigration and Naturalization Service proving each consultant's eligibility to work in the United States. The State reserves the right to audit these documents and will require Form I-9 prior to approving any contract user's request.

c. Background Checks

The Department of Public Safety ("DPS") may perform background checks on consultants that will work under this Agreement.

d. Supplier Diversity

The Customer requires that Supplier assist the contract users in reaching their Supplier Diversity goals. Contract users will specify work that will be given to a Small Business Enterprise (SBE) or a Minority Business Enterprise (MBE). Supplier must fulfill minimum of 25% of the SBE/MBE requirement. Failure to meet these goals may result in termination of this Agreement. The Supplier shall pay SBE/MBE subcontractors within 30 days after invoice in accordance with Connecticut General Statute § 4a-60g, or as it may be amended or supplemented from time to time.

e. Reportings

The Customer requires that the Supplier submit a quarterly report to the Contracts and Purchasing Division which shall include all information noted on the sample Quarterly Report included in the Product Schedule. Failure to submit such quarterly reports may result in the termination of this agreement.

9. CONSULTANT COMMITMENT

a. Unless the contract user terminates the consultant noted in an applicable purchase order, by issuance of an amendment or cancellation of the purchase order, as may be applicable, any consultant assignment resulting from such purchase order shall remain in force until the purchase order specified assignment end date.

b. If the Supplier terminates any consultant prior to the end date specified in the purchase order, the Customer shall be entitled to a credit based upon the following table:

Number of Work Days Worked by the Consultant	Calculation of Customer Credits
1 thru 15 days	Credit for total charges plus 10% of such charges to cover Customer's administrative overhead
16 thru 30 days	Credit for one half (50%) of total charges
31 thru 60 days	Credit for one quarter (25%) of total charges
61 days and thereafter	Credit for one fifth (20%) of total charges

10. PERFORMANCE FAILURE

If a consultant fails to perform as specified in the statement of work or the consultant is found by the Contract User to lack the basic skills for which she/he was selected, the consultant shall be immediately terminated and the Contract User shall be immediately entitled to a credit based upon the following table:

Number of Work Days Worked

Calculation of Customer Credits

by the Consultant

1 thru 15 days

16 thru 30 days 31 days and thereafter Credit for total charges plus 10% of such charges to cover contract user's administrative overhead Credit for one half (50%) of total charges Credit for ten (10) work days of charges

11. RATES AND PAYMENTS

Supplier agrees to provide the services at rates not exceeding the rates set forth in the Product Schedule.

Payment of undisputed charges will be made only after presentation of a properly documented invoice. All invoices shall be sent directly to the contract user. All inquiries regarding the status of unpaid invoices shall also be directed to the contract user. In cases where there is a good faith dispute concerning the Supplier's claim for payment, the contract user shall contact the Supplier prior to payment due date and payment of charges in dispute may be withheld in whole or in part. If the Supplier corrects the defect or impropriety within five (5) business days of being so contacted, Supplier shall be entitled to payment. Otherwise, the parties shall resolve the dispute in accordance with the applicable dispute resolution process.

All charges against the Supplier, including credits, shall be deducted from current obligations that are due or may become due. In the event that collection is not made in this manner, the Supplier shall pay the State, on demand, the amount of such charges.

The Supplier agrees that the sole and exclusive means for the presentation of any claim against the State arising from this contract shall be in accordance with Chapter 53 of the Connecticut General Statutes (Claims against the State) and the Supplier further agrees not to initiate legal proceedings in any State or Federal Court in addition to, or in lieu of, said Chapter 53 proceedings.

12. WEB PAGE, NEWS RELEASES, COMMERCIAL ADVERTISING

The Supplier must develop and maintain customized web pages exclusively for the use of the Customer and Contract Users. These web pages shall include the Master Agreement, Product Schedule (including position descriptions and pricing), procedures and policies, contact information, escalation information and any other information deemed necessary by the Customer. All information on web page must be approved in writing by Customer prior to posting.

Supplier news releases and commercial advertising which pertain to this Agreement shall neither be made nor authorized by the Supplier without prior written approval of Customer.

13. CONFIDENTIALITY

a. The contract user may disclose to the Supplier confidential information relating to past, present and/or future operations relative to the contract user.

b. All data and/or other information, in whatever form, delivered by the contract user or otherwise obtained from the contract user by the Supplier pursuant to this Agreement shall be deemed confidential to the Customer.

c. The Supplier shall provide care and safeguards for the contract user's information and instruct its personnel to keep such information confidential. The Supplier shall have no obligation to safeguard such material if the material is publicly available, already in public possession or publicly known, rightfully obtained by the Supplier from third parties, or disclosed by the Supplier as required of the Supplier pursuant to the laws of public disclosure.

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14. OWNERSHIP AND PROPRIETARY RIGHTS

Any product, whether acceptable or unacceptable, developed under this Agreement shall be the sole property of the Customer and the Customer shall have sole proprietary rights thereto.

15. SEPARABILITY

In the event any provision of this Agreement is decided by a proper authority to be invalid, the remaining provisions of this Agreement shall be unimpaired and the invalid provision shall be replaced by a provision which, being valid comes closest to the intention underlying the invalid provision.

16. HEADINGS

The headings given to sections of this Agreement are intended to be used for reference only, and shall not affect the construction or interpretation of this Agreement.

17. <u>GENERAL</u>

a. This Agreement does not authorize either party to act as the agent or legal representative of the other for any purpose whatsoever. Neither party is granted any express or implied right, obligation or responsibility to bind the other party in any manner.

b. The failure of either party at any time to require performance by the other party of any provision hereof shall not affect in any way the full right to require such performance at any time thereafter. The waiver by either party of a breach of any provision herein shall not be taken or held by the other party to be a waiver of the provision itself unless such a waiver is expressed in writing by the affected party and signed by an authorized individual of the affected party.

c. This Agreement may not be assigned by Customer without Supplier's prior written consent. This Agreement may not be assigned by Supplier without Customer's prior written consent and Supplier's compliance with the requirements of the State's Comptroller's Office concerning such assignments. Any such written consent shall not be unreasonably withheld.

18. DATE COMPLIANCE

The Contractor warrants that the system as a whole and each component of it, as applicable, is compliant with Year 2000 (Y2K) and all other dates, as specified in the business and technical requirements of the RFP.

Notwithstanding any provision to the contrary in any Contractor warranty or warranties, the remedies available to the State under this Year 2000 warranty shall include repair or replacement of any element of the System whose non-compliance with the Year 2000 warranty is discovered and made known to the Contractor in writing. This warranty remains in effect for 365 days following the Warranty Period of this agreement.

Nothing in this warranty shall be construed to limit any rights or remedies the State may otherwise have under this contract with respect to defects other than Year 2000 compliance.

In addition, the Contractor warrants that elements of the System modified or remediated to achieve Year 2000 compliance will remain unaffected with respect to their functioning or performance except for processing and exchanging date/time data. The Contractor warrants that Deliverables not being modified or remediated directly will remain unaffected with respect to their normal functioning or performance.

19. COMMUNICATIONS

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The address for the submission of invoices shall be provided in purchase orders.

Unless notified otherwise by the other party in writing:

a) Correspondence and notices between the parties to this Agreement as to general business matters, reporting requirements, or the terms and conditions herein should be directed to:

Customer – Department of Information Technology Contracts & Purchasing Division 101 East River Drive, East Hartford, CT 06108-3274

Supplier – As stated on page one of this Agreement

Notices sent by United States mail with postage prepaid shall become effective when mailed.

b) All technical, coordination, or day-to-day administrative matters pertaining to this Agreement should be directed to:

Contract user - As specified in the applicable purchase order

Supplier – As stated on page one of this Agreement

20. NONDISCRIMINATION AND AFFIRMATIVE ACTION PROVISIONS

This section is inserted in this contract in connection with Subsection (a) of Section 4a-60 of the General Statutes of Connecticut, as revised.

a. For the purposes of this section, "minority business enterprise" means any small Supplier or supplier of materials fifty-one per cent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) Who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise and (3) who are members of a minority, as such term is defined in Subsection (a) of Conn. Gen. Stat. Section 32-9n; and "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations. "Good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements.

For the purposes of this section, "commission" means the commission on human rights and opportunities.

For the purposes of this section, "public works contract" means any agreement between any individual, firm or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

b. (1) The Supplier agrees and warrants that in the performance of the contract such Supplier will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation or physical disability, including, but not limited to, blindness, unless it is shown by such Supplier that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut. The Supplier further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation, or physical disability, including, but not limited to, blindness, unless it is shown by such Supplier that such disability prevents performance of the such disability prevents performance of the work involved, including, but not limited to, blindness, unless it is shown by such Supplier that such disability prevents performance of the work involved; (2) the

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Supplier agrees, in all solicitations or advertisements for employees placed by or on behalf of the Supplier, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the commission; (3) the Supplier agrees to provide each labor union or representative of workers with which such Supplier has a collective bargaining agreement or other contract or understanding and each vendor with which such Supplier has a contract or understanding, a notice to be provided by the commission advising the labor union or workers' representative of the Supplier's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Supplier agrees to comply with each provision of this section and Conn. Gen. Stat. Sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to Conn. Gen. Stat. Sections 46a-56, 46a-68e and 46a-68f; (5) the Supplier agrees to provide the commission on human rights and opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Supplier as relate to the provisions of this section and Conn. Gen. Stat. Section 46a-56. If the contract is a public works contract, the Supplier agrees and warrants that he will make good faith efforts to employ minority business enterprises as Subcontractors and suppliers of materials on such public works project.

c. Determination of the Supplier's good faith efforts shall include but shall not be limited to the following factors: The Supplier's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.

d. The Supplier shall develop and maintain adequate documentation, in a manner prescribed by the commission, of its good faith efforts.

e. Subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subSupplier, vendor or manufacturer unless exempted by regulations or orders of the commission. The Supplier shall take such action with respect to any such subcontract or purchase order as the commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Conn. Gen. Stat. Section 46a-56; provided, if such Supplier becomes involved in, or is threatened with, litigation with a subSupplier or vendor as a result of such direction by the commission, the Supplier may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

f. The Supplier agrees to comply with the regulations referred to in this section as they exist on the date of this contract and as they may be adopted or amended from time to time during the term of this contract and any amendments thereto.

21. NONDISCRIMINATION PROVISIONS REGARDING SEXUAL ORIENTATION

This section is inserted in this contract in connection with Subsection (a) Section 4a-60a of the General Statutes of Connecticut, as revised.

a. (1) The Supplier agrees and warrants that in the performance of the contract such Supplier will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or of the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Supplier agrees to provide each labor union or representative of workers with which such Supplier has a collective bargaining agreement or other contract or understanding and each vendor with which such Supplier has a contract or understanding, a notice to be provided by the commission on human rights and opportunities advising the labor union or workers' representative of the Supplier's commitments

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under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the Supplier agrees to comply with each provision of this section and with each regulation or relevant order issued by said commission pursuant to section 46a-56 of the general statutes; (4) the Supplier agrees to provide the commission on human rights and opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Supplier which relate to the provisions of this section and section 46a-56 of the general statutes.

b. The Supplier shall include the provisions of Subsection a of this section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the commission. The Supplier shall take such action with respect to any such subcontract or purchase order as the commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with section 46a-56 of the general statutes; provided, if such Supplier becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the commission, the Supplier may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

c. The Supplier agrees to comply with the regulations referred to in this section as they exist on the date of this contract and as they may be adopted or amended from time to time during the term of this contract and any amendments thereto.

22. EXECUTIVE ORDER NO. THREE

This contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill promulgated June 16, 1971 and, as such, this contract may be cancelled, terminated or suspended by the state labor commissioner for violation of or noncompliance with said Executive Order No. Three, or any state or federal law concerning nondiscrimination, notwithstanding that the labor commissioner is not a party to this contract. The parties to this contract, as part of the consideration hereof, agree that said Executive Order No. Three is incorporated herein by reference and made a part hereof. The parties agree to abide by said Executive Order and agree that the state labor commissioner shall have continuing jurisdiction in respect to contract performance in regard to nondiscrimination, until the contract is completed or terminated prior to completion.

The Supplier agrees, as part consideration hereof, that this contract is subject to the Guidelines and Rules issued by the state labor commissioner to implement Executive Order No. Three, and that he will not discriminate in his employment practices or policies, will file all reports as required, and will fully cooperate with the State of Connecticut and the state labor commissioner.

23. EXECUTIVE ORDER NO. SIXTEEN

This Agreement is subject to Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999 and, as such, this Agreement may be canceled, terminated or suspended by the State for violation of or noncompliance with said Executive Order No. 16. The parties to this Agreement, as part of the consideration hereof, agree that said Executive Order No. 16 is incorporated herein by reference and made a part hereof. The parties agree to abide by such Executive Order.

24. EXECUTIVE ORDER NO. SEVENTEEN

This contract is subject to the provisions of Executive Order No. Seventeen of Governor Thomas J. Meskill promulgated February 15, 1973, and, as such, this contract may be cancelled, terminated or suspended by the contracting contract user or the State Labor Commissioner for violation of or noncompliance with said Executive Order No. Seventeen, notwithstanding that the Labor Commissioner

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may not be a party to this contract. The parties to this contract, as part of the consideration hereof, agree that Executive Order No. Seventeen is incorporated herein by reference and made a part hereof. The parties agree to abide by said Executive Order and agree that the contracting contract user and the State Labor Commissioner shall have joint and several continuing jurisdiction in respect to contract performance in regard to listing all employment openings with the Connecticut State Employment Service.

25. WORKERS' COMPENSATION

Supplier agrees to carry sufficient workers' compensation and liability insurance in a company, or companies, licensed to do business in Connecticut, and furnish certificates if required.

26. APPLICABLE LAW. JURISDICTION

a. This contract shall be governed, interpreted and construed under and in accordance with the laws of the State of Connecticut without regard to its conflict of laws principles. This contract shall be deemed to have been made in East Hartford, Connecticut.

b. The Supplier irrevocably consents with respect to any permitted claims or remedies at law or equity, arising out of or in connection with this contract, to the jurisdiction of the Connecticut Superior Court or the U.S. District Court for the District of Connecticut and with respect to venue in the Judicial District of Hartford-New Britain at Hartford or the U.S. District Court for the District of Connecticut in Hartford, and irrevocably waives any objections it may have to such jurisdiction on the grounds of lack of personal jurisdiction of such court or the laying of venue of such court or on the basis of forum non conveniens or otherwise.

c. Supplier agrees to appoint agents in the State to receive service of process. In the event Supplier fails to appoint said agent the Secretary of the State of Connecticut is hereby appointed by Supplier as its agent for service of process for any action arising out or as a result of this contract, such appointment to be in effect throughout the life of this contract including any supplements hereto and all renewals thereof, if any, and six (6) years thereafter except as otherwise provided by law.

27. LANGUAGE REQUIRED PURSUANT TO C.G.S. §1-200 AND §1-218

Each contract in excess of two million five hundred thousand dollars between a public contract user and a person for the performance of a governmental function shall (1) provide that the public contract user is entitled to receive a copy of records and files related to the performance of the governmental function, and (2) indicate that such records and files are subject to the Freedom of Information Act and may be disclosed by the public contract user pursuant to the Freedom of Information Act. No request to inspect or copy such records or files shall be valid unless the request is made to the public contract user in accordance with the Freedom of Information Act. Any complaint by a person who is denied the right to inspect or copy such records or files shall be brought to the Freedom of Information Commission in accordance with the provisions of sections 1-205 and 1-206 of the general statutes.

28. REPORTS TO THE AUDITORS OF PUBLIC ACCOUNTS

This contract is subject to the provisions of §4-61dd Connecticut General Statutes. In accordance with this section any person having knowledge of any matter involving corruption, violation of state or federal laws or regulations, gross waste of funds, abuse of authority or danger to the public safety occurring in any large state contract, may transmit all facts and information in his possession concerning such matter to the Auditors of Public Accounts. In accordance with subsection (e) if an officer, employee or appointing authority of a large state Supplier takes or threatens to take any personnel action against any employee of the Supplier in retaliation for such employee's disclosure of information to the

Reference No. B-05-003

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Auditors of Public Accounts or the Attorney General under the provisions of this section, the Supplier shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of the contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation each calendar day's continuance of the violation shall be deemed to be a separate and distinct offense. The executive head of the State or quasi-public contract user may request the Attorney General to bring a civil action in the Superior Court for the Judicial District of Hartford to seek imposition and recovery of such civil penalty. In accordance with subsection (f) each large state Supplier shall post a notice of the provisions of this section relating to large state Suppliers in a conspicuous place which is readily available for viewing by the employees of the Supplier.

29. LANGUAGE REQUIRED PURSUANT TO C.G.S. §4d-44

The provisions of Section 4d-44 of the Connecticut General Statutes concerning continuity of systems in the event of expiration or termination of contracts, amendments or default of the Supplier are incorporated herein by reference.

Sec. 4d-44. Each contract, subcontract or amendment to a contract or subcontract shall include provisions ensuring continuity of state contract user information system and telecommunication system facilities, equipment and services, in the event that work under such contract, subcontract or amendment is transferred back to the State or transferred to a different Supplier, upon the expiration or termination of the contract, subcontract or amendment or upon the default of the Supplier or subcontractor. Such provisions shall include, but not be limited to, (1) procedures for the orderly transfer to the State of (A) such facilities and equipment, (B) all software created or modified pursuant to the contract, subcontract or amendment, and (C) all public records, as defined in section 4d-33, which the Supplier or subcontractor possesses or creates pursuant to such contract, subcontract or amendment, and (2) procedures for granting former State employees who were hired by such Supplier or subcontractor the opportunity for reemployment with the State.

The parties agree to enter into an amendment to this contract as soon as practicable to set out the express terms to comply with the provisions of C.G.S. §4d-44.

30. NO RESALE

Customer is not permitted to resell the services.

31. APPROVAL OF AGREEMENT

This Agreement shall become effective upon its approval as to form by the Office of the Attorney General of the State of Connecticut.

32. SURVIVAL BEYOND COMPLETION

The provisions of Section 12 and Section 13 shall survive the expiration or termination of this Agreement.

33. ORDER OF PRECEDENCE

The Parties agree that all of the following documents are incorporated by reference into this Agreement. With regard to any inconsistencies that might arise, the following order of precedence shall be used:

1. This Agreement

2. RFP #04ITZ0007 and all Amendments

3. Hallmark TotalTech, Inc., Original Proposal

34. ENTIRETY OF AGREEMENT

This Agreement includes the SIGNATURE PAGE OF AGREEMENT. To the extent the provisions of the previously mentioned Product Schedule and any aforementioned Attachment do not contradict the provisions of Sections 1 through 34 of this Agreement, said documents are incorporated herein by reference and made a part hereof as though fully set forth herein. This Agreement, as thus constituted, contains the complete and exclusive statement of the terms and conditions agreed to by the parties hereto and shall not be altered, amended, or modified except in writing executed by an authorized representative of each party.

Reference No. B-05-003

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SIGNATURE PAGE OF AGREEMENT

This Agreement is entered into by authority of Sections 4d-2, 4d-5 and 4d-8 of the General Statutes.

APPROVED:

APPROVED:

STATE OF CONNECTICUT

BY: -

NAME: Andrew M. Pulvermacher

TITLE: President

(Professionally known as Andrew M. Parker)

DATE: October 27, 2004

BY:

Elizabeth D. Petroni

Chief of Staff Department of Information Technology, duly authorized

DATE:

SEAL

APPROVED AS TO FORM:

Attorney General of the State of Connecticut

Assoc. Atty. General DATE:

Master Agreement B-05-003 Product Schedule

Vendor Name: Hallmark TotalTech, Inc.

Resources

A. Pricing and Resources

	Position Category	Position Title	Proposed Overall Rate (\$ per Hour, Calculated)	Bill	No. of W-2 Employees	No. of 1099 Employees
Α	Programmers	(1.1) Programmer	\$ 3	9.26	15	2
в	Developers	(2.1) Systems Developer 1	\$ 4	3.79	3	2
		(2.2) Systems Developer 2	\$ 5	51.34	5	2
		(2.3) Systems Developer 3	\$ 5	8.89	4	2
с	Technical Analysts	(3.1) Technical Analyst 1	\$ 5	5.87	6	5
		(3.2) Technical Analyst 2	\$ 5	8.89	15	5
D	Project Managers	(4.1) Project Manager	\$ 6	4.93	6	5
Е	Administrators	(5.1) Administrator-Technical Analyst 1	\$ 5	2.85	9	7
		(5.2) Administrator-Technical Analyst 2	\$ 5	5.87	8	3
		(5.3) Administrator-Technical Analyst 3	\$ 6	3.42	5	5
		(5.4) Information Systems Administrator	\$ 5	5.87	5	5
F	LAN Specialists	(6.1) LAN Specialist	\$ 5	2.85	2	3
G	Engineers	(7.1) Technical Specialist	\$ 4	6.81	2	3
		(7.2) Telecommunications Engineer	\$ 6	60.40	2	4
	1	(7.3) Engineer-Technical Analyst 1	\$ 4	5.30	5	5
	1	(7.4) Engineer-Technical Analyst 2	\$ 5	51.34	3	5
]	(7.5) Engineer-Technical Analyst 3	\$ 5	57.38	3	4
]	(7.6) Engineer-Technical Analyst 4	\$ 6	3.42	1	3

н	Technical Writers	(8.1) Technical Writer/Editor	\$	37.75
I	Computer Operators	(9.1) Computer Operator 1		31.71
		(9.2) Computer Operator 2	\$	36.24
J	Security Specialists	(10.1) Security Analyst	\$	61.91
к	E-Commerce	(11.1) E-Commerce-Systems Developer		58.89
		(11.2) E-Commerce-Technical Analyst 1		45.30
		(11.3) E-Commerce-Technical Analyst 2	\$	48.32
]	(11.4) E-Commerce-Technical Analyst 3		57.38
]	(11.5) E-Commerce-Technical Analyst 4	\$	63.42

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	Position Category	Position Title	Industry Position Titles
	Programmers	(1.1) Programmer	Programmer, Research Analyst/Statistician
Job Description	Computer programming and providing programming support for agency information systems. Works under the supervision of a systems developer or an employee of higher grade. May lead IS interns as well as other IS staff and clerical personnel in assigned areas of responsibility. Prepares computer programs for solution of business problems from narrative statements, program specifications and other data as source materials.	· ·	Maintains and enhances existing programs. Assists in microcomputer hardware/software installation and support. Uses programmer productivity tools. May assist systems developers in analysis, design and development of information systems. May provide user training. May perform system tests. Performs related duties as required.
Min. Experience (# of Years)	1 year		
Required Experience/ Knowledge/Skills	 Knowledge of principles and techniques of computer programming Knowledge of principles of information systems Knowledge of concepts of computer operating systems 	 Knowledge of programming languages Interpersonal skills Oral and written communication skills Problem-solving skills Logic and analytical skills 	 Ability to prepare manuals, reports and documentation Ability to write, test and debug computer programs Ability to use programming development tools Ability to follow oral and written instructions
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Access methods (VSAM, QSAM, etc.) COBOL (II, ANSI, LE, VS) C/C++ Database (Access, DBase, MS/SQL, Oracle, PACE, PowerBuilder, Sybase, etc.) FoxPro, FoxPro for Windows IBM 308X and/or 3090 computer and teleprocessing equipment, OS/390 environment IBM (Assembler, CICS, System Utilities) 	 Job Control Language (JCL) Linkage Editor Panvalet Paradox, Paradox for Windows Procedure language Research Analyst/Statistician (SAS, SPSS, or other statistical package; degree in Math or Statistics) Shell programming 	 SQL System development aids Transaction Interface Package (TIP)- TSO/ISPF UNISYS 1100 and/or 90 series UNIX (5 environment, administration) Visual Basic applications Wang (System Utilities, VS environment)

	Position Category	Position Title	Industry Position Titles
	Developers	(2.1) Systems Developer 1	Developer, Programmer, Sr. Programmer, Programmer/Analyst, Systems Analyst
Job Description	Computer programming and assisting in the design, development, and support of information systems. Works under the supervision of a systems developer or an employee of higher grade. May lead other IS staff and clerical personnel in assigned areas of responsibility.	"Programmer" plus: Prepares program specifications and test data for own work as well as for other programmers. Assists in analysis of business needs. Assists in design, development and implementation of information systems solutions. Prepares time and cost estimates for own work. Assists in development of functional requirements with customer groups. Assists in development of system specifications.	Assists in definition of work and/or data flow. Assists in arranging necessary hardware and software availability. Designs screens, forms and reports. Assists with design and development of tables and relationships. Provides customer and/or system support as needed. Prepares progress reports. May train staff and customers in use of computer systems and software packages. Performs related duties as required.
Min. Experience (# of Years)	3 years		
Required Experience/ Knowledge/Skills	of computer programming	 Knowledge of computer operating systems Knowledge of fundamental principles and theories of business and planning functions Knowledge of principles and techniques of systems analysis, design and development 	 Knowledge of capabilities of computer equipment and technology Considerable ability to write, test and debug computer programs Ability to identify, analyze and resolve simple business and technical problems
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Access methods (VSAM, VTAM, QSAM, etc.) BOBS/CATER Languages (C/C++, COBOL, Digital Command (DCL), Job Control (JCL) CDD Repository Client/Server based systems Communication Management System (CMS), Data Management System (DMS), Record Management System (RMS), RMS File Descriptor Language, Total Information Management System (TIMS) COBRA Database (Access, DBase, MS/SQL, Oracle, etc.) Datatrieve (DTR) Data Warehouse DEC, DEC/Oracle RDB DCOM FoxPro, FoxPro for Windows 	 Java/Advanced Java (applets, data access via JDBC, EJBs, Java Application Server, Java Security, JSPs, servlets, VisualAge), Java Certification JetForms InTempo (Workflow applications including Process Designer, Role Builder) Language Sensitive Editor (LSE) Linkage Editor Lotus Domino (Web and Workflow) Lotus Notes Professional Certification (CLP) MS Project Novell and/or Banyan environment Object-oriented technology 	 Panvalet Paradox, Paradox for Windows PeopleSoft (AppEngine, Crystal reports, development of interfaces between PeopleSoft and customer sub- systems, Financials, Human Resources, mapping customer legacy data elements to PeopleSoft data elements, panels, PeopleCode, PeopleSoft Certification, PeopleTools, PSQuery, SQL, SQR, 8x development toolsets) Powerhouse Rapid Application Development SQL TCP/IP programming Three-tiered distributed applications TSO/ISPF UNISYS 1100 or equivalent VAX/DEC Basic Visual Basic

	Position Category	Position Title	Industry Position Titles
	Developers	(2.2) Systems Developer 2	Analyst/Designer, Business Systems Analyst, Assistant Data Communication Coordinator, Developer, Sr. Developer, Programmer, Sr. Programmer, Programmer/Analyst, Sr. Programmer/Analyst, Systems Analyst
Job Description	Design, development, programming and support of information systems. Works under the general supervision of a systems developer or other employee of higher grade. May lead other IS staff and clerical personnel in assigned areas of responsibility.	"Systems Developer 1" plus: Analyzes business needs and designs, develops and implements information systems solutions. Provides continuity by consulting with business customer from definition of business need or problem through implementation of solution. Develops functional requirements with customer groups. Prepares time and cost estimates. Initiates purchase requests. Writes program and system specifications. Defines work and/or data flow.	Defines data elements. Designs and develops tables and relationships. Arranges necessary hardware and software availability. Provides and maintains documentation and manuals necessary at customer and operational levels. Trains staff and customers in use of computer systems and software packages. Participates in management briefings. May prepare computer programs for solution of business problems. Performs related duties as required.
Min. Experience (# of Years)	5 years		
Required Experience/ Knowledge/Skills	 "Systems Developer 1" plus: Considerable knowledge of principles and techniques of systems analysis, design, development and computer programming Considerable knowledge of principles of 	information systems - Knowledge of principles and theories of business and planning functions - Considerable oral and written communication skills	 Considerable logic and analytical skills Ability to use programming development tools Ability to identify, analyze and resolve business and technical problems
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Access methods (VSAM, QSAM, etc.) COBOL (72/85, II, ANSI, LE) C/C++ CASE products Client/Server CMS DASD control language Database (DB2, MS/SQL, Oracle, PACE, PowerBuilder, Sybase, UNIFY, etc.) Database structures (HISAM, SHISAM, GSAM, HIDAM, HDAM) Data models, data & process flow diagrams DBDs, PSBs, PCBs DEC Test Manager (DTM) Digital Command Language (DCL) Distributed Communications Architecture (DCA) EXEC operating system FoxPro, FoxPro for Windows IBM (Assembler, CICS, Data Dictionary, OS/390 environment, System Utilities) IMS (Command level, DL/1, ISPF) 	NT systems environment - Joint Application Development (JAD) - Job Control Language (JCL) - Linkage Editor - MS Project - Novell and/or Banyan environment - Object-oriented technology - Panvalet - Paradox, Paradox for Windows - PeopleSoft (AppEngine, AppMessaging, Crystal reports, development of interfaces between PeopleSoft and customer sub-systems, development of online and batch functionality, EPM data warehouse, Financials (G/L, Purchasing, A/R, Bid Mgmt, A/P, E-Procurement,	 Transaction Interface Package (TIP) TSO/ISPF UNISYS 1100 or equivalent UNIX (5 environment) VAX/DEC Basic VS, VM, VMS, Open VMS operating system

	Position Category	Position Title	Industry Position Titles
	Developers	(2.3) Systems Developer 3	Analyst, Sr. Analyst, Data Administrator, Data Architect, Systems Analyst, Sr. Systems Analyst
Job Description	Accountable for acting as an information systems development project coordinator, responsible for coordinating the analysis, design, development, programming and support of information systems. Responsible for overseeing an entire large information systems development project or multiple smaller projects. Project coordination duties may include multiple contacts with customers, vendors, consultants, other information systems professionals, and management staff within and/or outside of the agency. Make decisions based on many variables and those decisions directly impact the outcome of projects.	Receives general direction from employee of higher grade. May lead systems developers, programmers and other information systems staff and clerical employees as assigned. " Systems Developer 2 " plus: Plans, coordinates and schedules assigned projects. Coordinates resources. Ensures timely completion of all phases of project. Assists in re-engineering of business systems. Assists in budget development. Participates in RFP process. Coordinates and/or provides customer and/or system support as needed.	Coordinates training of staff and customers in use of computer systems and software packages. Plans, coordinates and conducts project briefings with management and customers. Exercises limited administrative responsibility over other developers and/or programmers, i.e. budget, assignments, training, supervision, review and evaluation in role of project leader. Prepares program specifications and test data for own work and other staff. May facilitate meetings. Performs related duties as required.
Min. Experience (# of Years)	6 years		
Required Experience/ Knowledge/Skills	"Systems Developer 2" plus: - Considerable knowledge of principles and theories of business and planning functions - Considerable knowledge of capabilities of computer technology	 Knowledge of project management principles and techniques Basic Knowledge of principles and techniques of business information systems re-engineering Considerable problem solving skills 	 Project coordination skills Considerable ability to prepare manuals, reports, documentation and other written materials Considerable ability to identify, analyze and resolve complex business and technical problems
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Access methods (VSAM, QSAM, etc.) CASE products CDD Repository CICS or CICS development software (i.e. DMS/CICS and TELON) COBOL (II, LE) Communication Management Systems (CMS), Data Management System (DMS), Distributed Communication Architecture (DCA), Total Information Management System (TIMS) Database structures (SHISAM, GSAM, HISAM, HIDAM, HDAM) Data modeling, modeling tools such as Cayenne Groundworks Data Warehouse and related strategies DB2, DBMS, DBRAD DEC VAX under VMS, DEC RDB, VAX Basic Digital Command Language (DCL) 	 Digital VMS Operating System including DCL VMS system utilities and editors DXT FOCUS batch and on-line with IMS or DB2 interface IBM (9672 computers or equivalent, Data Dictionary, OS/390, System Utilities) IMS (analysis, batch/teleprocessing programming, DL/1 DB) Joint Analysis and Design (JAD) JCL Linkage Editor Object-Oriented Technology PACE Panvalet Powerhouse QMF RMS file handling techniques 	 Spread Financial Modeling System, Spread PowerStation SQL TSO/ISPF UNISYS 1100 series Wang (System Utilities, VS computers) Working knowledge of DBD's, PSB's, and PCB's Ability to develop data strategies and data architecture, translate reporting requirements into data requirements, convert data from legacy systems into PeopleSoft HRMS, Financials and/or Enterprise Performance Warehouse; experience working as a PeopleSoft Oracle DBA; knowledge of PeopleSoft applications, PeopleTools tables and the system Conceptual Data Model; experience w/ PeopleSoft EPM, Oracle SQL, SQR, Crystal Reports and Informatica; experience implementing PS HRMS and/or Financials; experience mapping PeopleSoft data elements to customer system data elements

	Position Category	Position Title	Industry Position Titles
	Technical Analysts	. ,	Assistant Data Communication Analyst, Sr. Technical Analyst
	Accountable for solving complex network problems, designing configurations of networks and coordinating and implementing data communications activities for administering a mid-range computer or complex LAN or for assisting in basic host systems software support functions. Works under the supervision of a data processing employee of a higher grade. May lead technical and clerical staff as assigned.	Configures and certifies wiring. Adds and/or deletes users. Administers electronic mail systems including adding and deleting mailboxes, monitoring mail flow and establishing delivery policies. Maintains integrity of software. Applies software fixes and upgrades. Performs backups for LAN servers. Analyzes and resolves network and operational problems. Diagnoses and resolves network problems utilizing traces, hardware diagnostic tools and software aids. Generates and analyzes reports of network usage from network management systems. Configures terminals and other I/O devices into communications network.	Installs hubs, routers, bridges, gateways, servers, multiplexors, modems and other communications equipment. Writes utilities for system management, reporting, file clean up and auditing. Assigns user identifications and passwords. Coordinates backups and file management with operations staff. Assists in installation and maintenance of performance monitors, schedulers, program management systems and utilities, report generators and compilers. Trains and supports users on operating system, software packages and applications. Acts as liaison to hardware/software vendors, system developers, programmers and user community. Performs related duties as required.
Min. Experience (# of Years)	6 years		
Required Experience/ Knowledge/Skills	 Considerable knowledge of data processing and data communications equipment and diagnostic tools Knowledge of principles, problems and techniques of data processing and data communications operations 	- Considerable technical problem solving skills	 Oral and written communication skills Considerable ability to analyze and troubleshoot operational and data communications problems Ability to analyze, troubleshoot and debug user programs
(depending on specific staffing request)	- Experience with host commands (IBM, JES), communication products and SNA applications VTAM, NETVIEW, CICS and/or LAN technologies and SNMP based network management systems, documentation products Info Management System,	•	- DCL - DEC Open VMS VAX cluster environment, DECnet - TCP/IP

	Position Category	Position Title	Industry Position Titles
	Technical Analysts	(3.2) Technical Analyst 2	Technical Architect, WAN Analyst/Designer
Job Description	and management of a major communications network, providing a full range of technical and administrative support for a complex WAN or agency mid-range computer system or performing basic host systems software support functions in a major data processing environment. (1) In a network environment provides technical support and assists in administrative support of a major data communications section of a computer installation. (2) Provides technical and administrative support for a complex WAN with connectivity external to agency systems or a mid-range computer system which supports an entire agency's information system	Major Communications Network, WAN or Agency Mid- Range Computer Environment Configures and installs terminal emulation software for host connection. Applies requested software fixes for operating system. Upgrades operating system software. Diagnoses and resolves complex network problems utilizing traces, hardware diagnostic tools, software aids, network management systems and utilities. Monitors performance and status of network. Configures hardware into operating system. Provides advanced level database support and troubleshooting. Assists in design and implementation of a communications network. Evaluates new hardware/software. Installs multiplexors, modems and other communications equipment. Configures and programs hubs, bridges, gateways and servers.	Major Data Processing Environment Writes system interface programs for application systems. Acts as liaison to hardware/software vendors, systems developers, programmers and user community. Assigns file access controls, encryption keys and other security attributes. Trains operators, systems developers and users on new procedures. Maintains host and/or front end processor communications software. Conducts system performance analysis, tuning and storage management. Conducts technical training programs for data processing staff. Assists in installation and maintenance of major systems such as transaction processing systems, security systems, data base management systems. Supports testing environments. Participates in design reviews and installs and maintains performance monitors, schedulers, program management systems and utilities, report generators, compilers. Performs other related duties as required.
Min. Experience (# of Years)	7 years		
Required Experience/ Knowledge/Skills	"Technical Analyst 1" plus: - Knowledge of principles and techniques of software generation and programming - Knowledge of methods and procedures used to conduct detailed analysis and design of computer	systems - Knowledge of principles of computer operating systems - Knowledge of practices and issues of systems security	 Considerable technical problem solving skills Ability to analyze and debug complex software programs
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Familiarity with PBX, data switches, modems, multiplexors, T1 carrier alternatives and/or intelligent hubs, router technology, Ethernet, token ring, and associated SNMP network management systems PeopleSoft (8x technical architecture/ infrastructure implementation experience; 	Unix/AIX, Oracle, Windows 2000, multi-platform distributed processing environment experience; knowledge of broader impact of HRMS/Financials/EPM across architectural system components and critical business processes and applications;	knowledge of State govt. business practices in regards to personnel and finance; knowledge of CT hardware/software/communications infrastructure)

	Position Category	Position Title	Industry Position Titles
	Project Managers	(4.1) Project Manager	Architect/Mentor, Business Process Analyst, Project Manager, Quality Assurance Analyst/Project Leader
Job Description	Directs, or assists in directing, a large data processing installation for a State agency including programming, systems analysis and support functions. Receives administrative direction from an official of higher grade. Supervises, or may supervise, an assigned staff of technical and clerical employees.	Plans, directs, and coordinates operation of a data processing installation which includes systems analysis, programming and support functions such as computer operations and/or remote job entry. Directs development of production controls and complex processing schedules, establishment and revision of internal operating procedures,	preparation of maintenance schedules and records and development and maintenance of systems controls. Directs assignment and training of employees. Assembles data for and prepares budgets, grant applications, special projects and reports. Acts as consultant on data processing problems and new operations. Performs related duties as required.
Min. Experience (# of Years)	8 years		
Required Experience/ Knowledge/Skills	 Considerable knowledge of data processing methods, techniques and equipment Knowledge of and ability to apply management 	principles and techniques - Communication skills - Considerable interpersonal skills	 Oral and written communication skills Ability to analyze data processing problems and implement effective solutions
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Access methods (VSAM, QSAM, etc.) Business Process (Digital content/document management systems including workflow and e- commerce interfaces, Internet-based business transformation initiatives, Workflow software engine, etc.) COBOL (II, DB, DB2, LE, IMS-DL/1) Database structures (SHISAM, GSAM, HISAM, HIDAM, HDAM) Data Management System (DMS), Distributed Communications Architecture (DCA), and Transaction Interface Package (TIP) Experience managing projects to develop applications in the following environments: CICS, 	Client/Server architecture, DB2, DEC, distributed Java technology, E-Commerce, Imaging, Internet/Intranet/Extranet, LAN, MVS/ESA with TSO/ISPF, Object-Oriented, Open VMS, PC, UNISYS (1100 series or equivalent), WAN, etc. - IBM (analysis, Data Dictionary, database system design utilizing IMS-CICS software or DB2 supported systems, OS/390 environment, System Utilities) - MS Project - Object-Oriented systems (Database background: DB2, JDBC, MS/SQL, Oracle, etc.; Java skills: applets, servlets, JSP;	experience defining and constructing reference architectures, large scale Web applications with both static and dynamically generated content, as well as creating reusable business objects) - PMP Certification - Production aids (JCL, Linkage Editor, Panvalet, system development aids, TSO/ISPF) - Quality Assurance (develop, implement, monitor QA plan/process; oversee software QA testing, system testing) - Telecommunication concepts and methods, and File Management Techniques

	Position Category	Position Title	Industry Position Titles
	Administrators	(5.1) Administrator-Technical Analyst 1	Database Administrator
	Accountable for solving complex network problems, designing configurations of networks and coordinating and implementing data communications activities for administering a mid-range computer or complex LAN or for assisting in basic host systems software support functions. Works under the supervision of a data processing employee of a higher grade. May lead technical and clerical staff as assigned.	software. Applies software fixes and upgrades. Performs backups for LAN servers. Analyzes and resolves network and operational problems. Diagnoses and resolves network problems utilizing traces, hardware diagnostic tools and software aids.	Installs hubs, routers, bridges, gateways, servers, multiplexors, modems and other communications equipment. Writes utilities for system management, reporting, file clean up and auditing. Assigns user identifications and passwords. Coordinates backups and file management with operations staff. Assists in installation and maintenance of performance monitors, schedulers, program management systems and utilities, report generators and compilers. Trains and supports users on operating system, software packages and applications. Acts as liaison to hardware/software vendors, system developers, programmers and user community. Performs related duties as required.
Min. Experience (# of Years)	6 years		
	 Considerable knowledge of data processing and data communications equipment and diagnostic tools Knowledge of principles, problems and techniques of data processing and data communications operations Knowledge of principles and techniques of programming Considerable technical problem solving skills 	 Considerable logic and analytical skills Interpersonal skills Oral and written communication skills Considerable ability to analyze and troubleshoot operational and data communications problems Ability to analyze, troubleshoot and debug user programs 	- Knowledge of recovery procedures, security planning, standards development, relational database design/structure, instructions and curriculum development, problems related to distributed development
(depending on specific staffing	 Experience w/ DB2, FOCUS, IMS, MS/SQL, ORACLE, PACE DBMS administration experience in a mid-frame or LAN (Unix, Microsoft NT Server, Banyan, Novell) 	environment including: recovery procedures, security planning, implementation and procedures, performance monitoring/tuning, standards development, coding and analysis, file design,	relational database design/structure, implementation techniques, installation/maintenance, instructions and curriculum development, and a proficiency in the problems related to distributed development

	Position Category	Position Title	Industry Position Titles
	Administrators	(5.2) Administrator-Technical Analyst 2	Database Administrator, Systems Administrator
Job Description	Accountable for assisting in the design, implementation and management of a major communications network, providing a full range of technical and administrative support for a complex WAN or agency mid-range computer system or performing basic host systems software support functions in a major data processing environment. (1) In a network environment provides technical support and assists in administrative support of a major data communications section of a computer installation. (2) Provides technical and administrative support for a complex WAN with connectivity external to agency systems or a mid-range computer system meeds. (3) As part of a team assists in installation and maintenance of major sub-systems or may independently install and maintain other host or network software. Works under the supervision of a data processing employee of a higher grade. May lead technical and clerical staff as assigned.	Major Communications Network, WAN or Agency Mid- Range Computer Environment Configures and installs terminal emulation software for host connection. Applies requested software fixes for operating system. Upgrades operating system software. Diagnoses and resolves complex network problems utilizing traces, hardware diagnostic tools, software aids, network management systems and utilities. Monitors performance and status of network. Configures hardware into operating system. Provides advanced level database support and troubleshooting. Assists in design and implementation of a communications network. Evaluates new hardware/software. Installs multiplexors, modems and other communications equipment. Configures and programs hubs, bridges, gateways and servers.	Major Data Processing Environment Writes system interface programs for application systems. Acts as liaison to hardware/software vendors, systems developers, programmers and user community. Assigns file access controls, encryption keys and other security attributes. Trains operators, systems developers and users on new procedures. Maintains host and/or front end processor communications software. Conducts system performance analysis, tuning and storage management. Conducts technical training programs for data processing staff. Assists in installation and maintenance of major systems such as transaction processing systems. Supports testing environments. Participates in design reviews and installs and maintains performance monitors, schedulers, program management systems and utilities, report generators, compilers. Performs other related duties as required.
Min. Experience (# of Years) Required Experience/ Knowledge/Skills		conduct detailed analysis and design of computer systems - Knowledge of principles of computer operating systems - Knowledge of principles and techniques of programming - Knowledge of practices and issues of systems security	 Considerable technical problem solving skills Considerable logic and analytical skills Interpersonal skills Oral and written communication skills Considerable ability to analyze, troubleshoot and resolve data communications problems
Desired Environments/ Languages/Skills (depending on specific staffing request)	 PeopleSoft Administration experience (Implementing and supporting PeopleSoft 8x, maintaining multiple versions of PeopleTools and PeopleSoft applications, installing and configuring these various PeopleSoft environments (PIA, WebLogic, Tuxedo, and application servers and batch servers)) Oracle database administration experience (Ability 	to debug complex infrastructure, application and database-related issues) - PeopleSoft EPM data warehouse administration experience - Experience w/ PeopleSoft Financials, HRMS, and EPM modules; QuestStat; Informatica - Experience w/ providing system administration in a Unix and Windows Enterprise environment	 Working knowledge and experience working w/ Unix, NT, Windows 2000 operating systems Experience in planning, designing, configuring, patching, tuning and troubleshooting servers within these environments Experience with UNIX/AIX, large-scale systems and PeopleSoft 8 environment

	Position Category	Position Title	Industry Position Titles
	Administrators	(5.3) Administrator-Technical Analyst 3	Database Administrator
Job Description	Accountable for supervising staff and overseeing the planning, analysis, design, selection, installation and implementation of an enterprise network and/or information systems. Works under the general supervision of an employee of a higher grade. Supervises applications and technical systems analysts, specialists, programmers and other technical support staff as assigned.	Coordinates installation of all application software packages. Maintains host operating systems. Designs and implements complex communications networks including disaster recovery networks. Evaluates and recommends new strategies technologies and technological directions to management. Coordinates and supervises all staff and activities in a major network control area. Makes recommendations and maintains contracts for hardware/software purchases. Coordinates application development with network and host system capabilities to ensure system integrity and interoperability. Acts as an expert resource and consultant for programmers/users and agency management on most complex problems or problems with major impact on systems.	Develops and implements host and network security policies. Makes recommendations for migration and system upgrade directions. Establishes and coordinates disaster recovery plan. Determines critical applications and personnel. Manages planning, analysis, design, selection, installation and implementation of an enterprise network and data processing systems. Establishes and administers systems security procedures and practices. Provides technical specifications as input into Requests for Proposal (RFP) processes. Participates on evaluation teams that review RFP responses. Performs facility and capacity planning and configuration management. Performs system performance analysis, tuning and storage management. Performs related duties as required.
Min. Experience (# of Years)	9 years		
Required Experience/ Knowledge/Skills	 Considerable knowledge of principles, problems and techniques of data processing and data communications operations, equipment and diagnostic tools Considerable knowledge of methods and procedures used to conduct detailed analysis and design of computer systems Considerable knowledge of complex operating 	systems - Considerable knowledge of practices and issues of systems security and disaster recovery - Considerable knowledge of applications systems development principles and techniques - Considerable knowledge of principles and theories of business and management	 Knowledge of principles and techniques of project management Considerable oral and written communication skills Considerable technical problem solving skills Considerable analytical skills Interpersonal skills Supervisory ability
Desired Environments/ Languages/Skills (depending on specific staffing request)	- COBOL/CICS/DB2 programmer experience - DB2 Data Base Administrator experience (Responsible for backup and recovery of DB2 databases, design reviews that ensure that the logical structures presented by data administration are physically implementable, object creation/update of data structures for practicality and optimal performance, object migration, performance tuning,	producing physical structure diagrams, production problem resolution, security administration of dbms objects, space management, structural maintenance to ensure that physical database page structures are efficient and corrupt free, and answering/solving technical questions/problems for developers and users)	 IBM OS/390 environment experience Experience w/ DBA-XPERT for DB2, !DB/SMU for DB2, DB/DASD for DB2, File-Aid for DB2, CA- Prosecure, Cayenne Terrain Map & Terrain for DB2, and Omegamon II for DB2 Knowledge of DB2 for MVS SQL including DDL, DCL, and DML

	Position Category	Position Title	Industry Position Titles
	Administrators	(5.4) Information Systems Administrator	IT Engineer
Job Description	Accountable for directing and coordinating complex inter-/intra-agency data processing planning efforts on a statewide basis and acting as the chief architect for the design of a statewide data processing program. Receives administrative direction from the Director of State Information Systems or an administrative employee of higher grade. Directs a staff of Associate IS Administrators in assigned areas and other project staff as assigned.	assists in development of related policy. Interprets and administers pertinent laws. Evaluates staff. Prepares or assists in preparation of project budget. Maintains contacts with individuals both within and outside who might impact project activities. Coordinates inter-/intra- agency data processing for an assigned group of agencies. Reviews IS and data processing	Identifies and/or documents required procedural and/or organizational changes for IS implementation. Reviews and/or recommends administrative placement of IS unit and EDP services. Acts as project manager for Central Data Processing Services staff assigned to develop and/or implement agency IS. Recommends staffing of technical and/or functional personnel, EDP equipment and fiscal requirements for IS implementation. Oversees EDP consulting efforts for assigned agencies. Provides technical liaison between IS project and: IS Steering Committee, Advisory Council and task forces. Reviews and/or recommends EDP plans and/or activities within local and regional offices. Determines interrelationships among information system requirements. Ensures proper integration of federal, state and local reporting requirements for IS program. Performs related duties as required.
Min. Experience (# of Years)	8 years		
Required Experience/ Knowledge/Skills	 Considerable knowledge of relevant agency policies and procedures Considerable knowledge of relevant State and Federal laws, statutes and regulations Considerable knowledge of methods and/or procedures for analyses of computer systems, data processing systems, operating systems hardware/ 	software, operating methods and control procedures - Considerable knowledge of equipment operations and programming - Knowledge of and ability to apply management principles and techniques - Considerable interpersonal skills	 Considerable oral and written communication skills Ability to conduct research of agency and/or intra- agency data processing requirements Ability to evaluate vendor data processing resources and to select optimum systems and/or equipment for assigned agencies
Desired Environments/ Languages/Skills (depending on specific staffing request)	- Areas of expertise: Migrating to Object-Oriented Technology, Migrating to a specified development methodology, Migrating to Relational Database Management Systems, Migrating to a multi-tiered, distributed computing environment, Defining enterprise- wide architectures and frameworks	- Experience in the successful mentoring and consulting of development teams in the adoption of new technology	- Experience defining and implementing enterprise-wide electronic messaging infrastructures

	Position Category	Position Title	Industry Position Titles
	LAN Specialists	(6.1) LAN Specialist	LAN Engineer
	support for network workstations and personal computer hardware and software. Works under the general supervision of an employee of higher grade. May lead/supervise lower level staff as assigned.	Diagnoses and resolves PC hardware and software problems. Acts as liaison between network users and hardware/software vendors. Determines network hardware needs for single and multi-user applications. Installs network operating systems and utility and applications software. Plans and coordinates software upgrades and installations for all network and non- network hardware/software. Designs and implements network workstation menu systems to access local and network resources. Resolves hardware compatibility problems with network adapters and software. Develops and implements network server backup procedures including documentation control and security for backup tapes. Develops and monitors security requirements within network.	Carries out disaster recovery plans. Trains users on operating system, software packages and applications. Prepares requests for other computer related services as needed. Adds new network users, changes passwords and redirects files to various network printers. Acts as liaison between users and other departmental services. Manages software/hardware inventory. Monitors performance and status of network with current network management tools. Develops statistical report formats. Balances network workload and identifies potential problem areas. May perform systems analysis, design and coding of computer programs. May run cables and install network hardware components. Performs related duties as required.
	3 years		-
Required Experience/ Knowledge/Skills	 Considerable knowledge of network environments and PC and LAN hardware/software knowledge of PC and LAN operating systems 	 Basic knowledge of principles and practices of fourth generation computer programming and systems analysis and design 	 Considerable interpersonal skills Oral and written communication skills Basic research and analytical skills
		 Certification in NOVELL's curriculum program, NOVELL LAN administration experience (Novell Netware) 	- Remote LAN management tools

	Position Category	Position Title	Industry Position Titles
	Engineers	(7.1) Technical Specialist	Systems Engineer
	Accountable for coordinating and implementing the installation, modification, operation and ongoing maintenance of hardware, software and data communications network components. Works under the general supervision of an employee of a higher grade. May lead lower level technical specialists and other staff in assigned areas of responsibility.	Coordinates installation of and installs, modifies and maintains complex network components and microcomputer hardware/software such as modems, multiplexers, PCs, servers, network interface cards and other PC components. Runs online diagnostics of installed components. Uploads modem configurations from a network management system. Installs microcomputer operating systems. Customizes software applications to meet user requirements. Implements network and/or system hardware/software upgrades and/or enhancements. Resolves hardware compatibility problems.	Diagnoses and resolves complex hardware/ software problems using a wide variety of diagnostic tools such as software aids, communications controllers, hardware diagnostic equipment and network console commands. Acts as liaison between technical analysts, users and vendors. Provides user support and training. Develops and maintains logs and records such as detailed records of network wiring connections, workstation addresses, inventory records, procurement information and operational documentation. Runs statistical network reports. May administer a small LAN. Performs related duties as required.
Min. Experience (# of Years)	4 years		
Required Experience/ Knowledge/Skills	 Considerable knowledge of data processing and data communications equipment and diagnostic tools Considerable knowledge of principles and concepts of network environments Knowledge of network and microcomputer operating systems Knowledge of principles and techniques of computer programming 	 Considerable technical problem solving skills Considerable logic and analytical skills interpersonal skills Oral and written communication skills Considerable ability to install and maintain microcomputer hardware, software and network components 	 Considerable ability to analyze and troubleshoot operational and data communications problems Considerable ability to follow complex oral and written instructions Ability to prepare and maintain records, logs, reports and documentation
Desired Environments/ Languages/Skills (depending on specific staffing request)	- Certification in Microsoft NT Systems curriculum program, Microsoft NT Server administration	experience, experience with remote LAN management tools	

	Position Category	Position Title	Industry Position Titles
	Engineers	(7.2) Telecommunications Engineer	Telecommunications Engineer
Job Description	Accountable for independently performing a full range of tasks in planning, maintenance, coordination and implementation of statewide telecommunications systems. Works under the general supervision of a section director, project manager or other employee of higher grade. May lead lower level employees as assigned.	Designs, engineers and reviews plans for implementation of telecommunications systems to be used in various agencies. Develops and reviews specifications for radio telecommunications equipment to be purchased and utilized by various state agencies. Conducts surveys to validate accuracy of existing systems. Evaluates technical capability of equipment such as mobile radios, base station radios, microwave, telemetry packages and pagers. Evaluates performance of vendors and contractors to determine if they have met contractual agreements.	Writes specifications for Emergency Medical System, police, fire, civil preparedness and data telecommunications equipment and may incorporate them into grant applications. Coordinates statewide use of radio telemetry equipment and systems. Maintains liaison with Federal Communications Commission concerning regulations, decisions and licensing requirements. May represent agency in meetings with other agencies or parties involved in telecommunications. Performs related duties as required.
Min. Experience (# of Years)	7 years		
Required Experience/ Knowledge/Skills	 Considerable knowledge of FCC rules, regulations and licensing procedures Knowledge of use of radio communications systems in public safety and/or civil preparedness operations 	 Knowledge of design technology of telecommunications equipment Interpersonal skills Oral and written communication skills 	 Ability to plan and coordinate use of telecommunications systems Ability to write contracts and specifications for telecommunications equipment procurement, installation and service
Desired Environments/ Languages/Skills (depending on specific staffing request)	(None)		

	Position Category	Position Title	Industry Position Titles
	Engineers	(7.3) Engineer-Technical Analyst 1	Network Engineer
	Accountable for solving complex network problems, designing configurations of networks and coordinating and implementing data communications activities for administering a mid-range computer or complex LAN or for assisting in basic host systems software support functions. Works under the supervision of a data processing employee of a higher grade. May lead technical and clerical staff as assigned.		Installs hubs, routers, bridges, gateways, servers, multiplexors, modems and other communications equipment. Writes utilities for system management, reporting, file clean up and auditing. Assigns user identifications and passwords. Coordinates backups and file management with operations staff. Assists in installation and maintenance of performance monitors, schedulers, program management systems and utilities, report generators and compilers. Trains and supports users on operating system, software packages and applications. Acts as liaison to hardware/software vendors, system developers, programmers and user community. Performs related duties as required.
Min. Experience (# of Years)	6 years		
Required Experience/ Knowledge/Skills	 Considerable knowledge of data processing and data communications equipment and diagnostic tools Knowledge of principles, problems and techniques of data processing and data communications operations 	 Knowledge of principles and techniques of programming Considerable technical problem solving skills Considerable logic and analytical skills Interpersonal skills 	 Oral and written communication skills Considerable ability to analyze and troubleshoot operational and data communications problems Ability to analyze, troubleshoot and debug user programs
	 Experience with Cisco equipment, Cisco LAN switching using Cisco Catalyst 5000, 5500s, 6500s, 2900s, 2400s Knowledge of PBX architecture IP routing using EIGRP, IP addressing including subnetting and configuring 	 Knowledge of OSPF, RIP, Novell IPX/SPX and SNA, Cisco 2500, 2600, 3600, AS5300, 7500, 7200 routers and RSMs ISDN backup of Leased Lines, Basic and Primary Rate ISDN, DNS/DHCP in a distributed environment, assembled and racked routers/catalysts 	- Experience with Telco's regarding provisioning of leased lines and knowledge of the types of interfaces and presentations delivered (e.g. X.21, V.35, balanced and unbalanced T1s)

	Position Category	Position Title	Industry Position Titles
	Engineers	(7.4) Engineer-Technical Analyst 2	Network Engineer
Job Description	Accountable for assisting in the design, implementation and management of a major communications network, providing a full range of technical and administrative support for a complex WAN or agency mid-range computer system or performing basic host systems software support functions in a major data processing environment. (1) In a network environment provides technical support and assists in administrative support of a major data communications section of a computer installation. (2) Provides technical and administrative support for a complex WAN with connectivity external to agency systems or a mid-range computer system which supports an entire agency's information system needs. (3) As part of a team assists in installation and maintenance of major sub-systems or may independently install and maintain other host or network software. Works under the supervision of a data processing employee of a higher grade. May lead technical and clerical staff as assigned.	Major Communications Network, WAN or Agency Mid- Range Computer Environment Configures and installs terminal emulation software for operating system. Upgrades operating system software. Diagnoses and resolves complex network problems utilizing traces, hardware diagnostic tools, software aids, network management systems and utilities. Monitors performance and status of network. Configures hardware into operating system. Provides advanced level database support and troubleshooting. Assists in design and implementation of a communications network. Evaluates new hardware/software. Installs multiplexors, modems and other communications equipment. Configures and programs hubs, bridges, gateways and servers.	Major Data Processing Environment Writes system interface programs for application systems. Acts as liaison to hardware/software vendors, systems developers, programmers and user community. Assigns file access controls, encryption keys and other security attributes. Trains operators, systems developers and users on new procedures. Maintains host and/or front end processor communications software. Conducts system performance analysis, tuning and storage management. Conducts technical training programs for data processing staff. Assists in installation and maintenance of major systems such as transaction processing systems, security systems, data base management systems. Supports testing environments. Participates in design reviews and installs and maintains performance monitors, schedulers, program management systems and utilities, report generators, compilers. Performs other related duties as required.
Min. Experience (# of Years)	7 years		
Required Experience/ Knowledge/Skills	"Engineer-Technical Analyst 1" plus: - Knowledge of principles and techniques of software generation and programming - Knowledge of methods and procedures used to conduct detailed analysis and design of computer	systems - Knowledge of principles of computer operating systems - Knowledge of practices and issues of systems security	 Considerable technical problem solving skills Ability to analyze and debug complex software programs
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Large global, multi-protocol internetworks (Knowledge of internetworking systems and architectures, protocols and carrier services; Experience w/ Cisco routers, Frame Relay, TCP/IP and ISDN networks, and solid understanding of network security, Internet services, remote access services and technology) Experience with Cisco equipment, Cisco LAN switching using Cisco Catalyst 5000, 5500s, 6500s, 2900s, 2400s using Spanning Tree, Route Switch Modules and EtherChannel 		 ISDN backup of Leased Lines, Basic and Primary Rate ISDN, DNS/DHCP in a distributed environment, assembled and racked routers/catalysts Experience with Telco's regarding provisioning of leased lines and knowledge of the types of interfaces and presentations delivered (e.g. X.21, V.35, balanced and unbalanced T1s)

	Position Category	Position Title	Industry Position Titles
	Engineers	(7.5) Engineer-Technical Analyst 3	Network Engineer
Job Description	Accountable for planning, organizing and managing network activities, designing and implementing complex networks or assisting in the planning, analysis, design, selection, installation and implementation of an enterprise network and/or information systems. Works under the general supervision of an employee of higher grade. May lead Technical Specialists and Technical Analysts and other technical and clerical staff as assigned.	develops and coordinates resolutions. Maintains host operating systems. Provides advanced level database support and troubleshooting. Designs and implements	management. Develops and implements network and system security guidelines. Develops and implements system programming standards. Makes recommendations for migration and upgrade directions. Trains operators, systems developers and users on new procedures. Implements disaster recovery plans, assists in determining critical applications and personnel and ensures offsite backups. Installs and upgrades host and/or FEP operating system software. Conducts system performance analysis and tuning and storage management. Conducts technical training programs for data processing staff. May act as project leader overseeing other technical staff and support personnel. Performs related duties as required.
Min. Experience (# of Years)	8 years		
Required Experience/ Knowledge/Skills	 "Engineer-Technical Analyst 2" plus: Considerable knowledge of principles, problems and techniques of data processing and data communication operations Considerable knowledge of data processing and data communications equipment and diagnostic tools Considerable knowledge of methods and 	procedures used to conduct detailed analysis and design of computer systems - Considerable knowledge of principles of complex computer operating systems - Knowledge of network protocols and architecture - Knowledge of practices and issues of systems security and disaster recovery	 Knowledge of applications systems development principles and techniques Knowledge of principles and practices of data base management Considerable oral and written communications skills Considerable ability to analyze and resolve operational and communications problems
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Ability to engineer combinations of hardware and software to solve a technology problem C CASE (Computer Aided Systems Engineering), Data Xpert, Estimacs, Excellerator, Focus, Harvard Total, ISPF/PDF, Level5, Nastec, Primavera, Telon, Xpediter Common data base application products ISO protocols MS-DOS 	 UNIX Experience with large, global, multi-protocol internetworks Experience with multiservice networks Network operations experience Knowledge of WAN technologies, including Frame Relay and multiservice ATM based on Cisco products Knowledge of internetworking systems and architectures, protocols, and carrier services 	 Cisco routers and IOS, ATM (AAL1-5), H.323, Frame Relay, TCP/IP, ISDN and ADSL networks, QoS and CoS mechanisms, Voice protocols and interfaces (SS7, CAS, CCS), network security and Internet services, ATM switching environments and tools Cisco switching products (65xx, 5500, 2900, 2400), IP routing using EIGRP, IP addressing including subnetting and configuring Hot Standby Routing Protocol (HSRP)

	Position Category	Position Title	Industry Position Titles
	Engineers	(7.6) Engineer-Technical Analyst 4	Network Engineer
Job Description	Accountable for supervising staff and overseeing the planning, analysis, design, selection, installation and implementation of an enterprise network and/or information systems. Works under the general supervision of an employee of a higher grade. Supervises applications and technical systems analysts, specialists, programmers and other technical support staff as assigned.	Coordinates installation of all application software packages. Maintains host operating systems. Designs and implements complex communications networks including disaster recovery networks. Evaluates and recommends new strategies technologies and technological directions to management. Coordinates and supervises all staff and activities in a major network control area. Makes recommendations and maintains contracts for hardware/software purchases. Coordinates application development with network and host system capabilities to ensure system integrity and interoperability. Acts as an expert resource and consultant for programmers/users and agency management on most complex problems or problems with major impact on systems.	Develops and implements host and network security policies. Makes recommendations for migration and system upgrade directions. Establishes and coordinates disaster recovery plan. Determines critical applications and personnel. Manages planning, analysis, design, selection, installation and implementation of an enterprise network and data processing systems. Establishes and administers systems security procedures and practices. Provides technical specifications as input into Requests for Proposal (RFP) processes. Participates on evaluation teams that review RFP responses. Performs facility and capacity planning and configuration management. Performs system performance analysis, tuning and storage management. Performs related duties as required.
Min. Experience (# of Years)	9 years		
Required Experience/ Knowledge/Skills	"Engineer-Technical Analyst 3" plus: - Considerable knowledge of principles, problems and techniques of data processing and data communications operations, equipment and diagnostic tools	 Considerable knowledge of practices and issues of systems security and disaster recovery Considerable knowledge of applications systems development principles and techniques Considerable knowledge of principles and 	theories of business and management - Knowledge of principles and techniques of project management - Supervisory ability
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Experience with large, global, multi-protocol internetworks Experience with multiservice networks Network operations experience Knowledge of WAN technologies, including 	Frame Relay and multiservice ATM based on Cisco products - Knowledge of internetworking systems and architectures, protocols, and carrier services	- Cisco routers and IOS, ATM (AAL1-5), H.323, Frame Relay, TCP/IP, ISDN and ADSL networks, QoS and CoS mechanisms, Voice protocols and interfaces (SS7, CAS, CCS), network security and Internet services, ATM switching environments and tools

	Position Category	Position Title	Industry Position Titles
	Technical Writers	(8.1) Technical Writer/Editor	Technical Writer/Editor
Job Description	user manuals, training courses and procedures. Defines, documents, and maintains architecture-related	and recommending enhancements to improve their	Conducts peer reviews and editing of information products created by other team members.
Min. Experience (# of Years)	2 years		
Required Experience/ Knowledge/Skills	 Excellent technical communication, research, and analytical skills Thorough understanding of information design and development concepts Outstanding audience analysis skills and ability to tailor communication to fit needs of diverse audiences 	- Ability to assimilate technical concepts quickly and	 Thorough knowledge of English grammar, punctuation, and proofreaders' marks Ability to work independently, yet seek guidance when necessary Ability to meet tight deadlines and adjust to changing priorities
Desired Environments/ Languages/Skills (depending on specific staffing request)	- Help Desk environment experience - Language Sensitive Editor (LSE)	- MS Word - Multimedia experience	- Wextech Doctohelp
	Position Category	Position Title	Industry Position Titles
	Computer Operators	(9.1) Computer Operator 1	Computer Operator
Job Description	Accountable for performing operational support work related to input and/or output control, tape management or computer operations. Works under the general supervision of an IS employee of higher grade in the performance of routine tasks; receives closer supervision when performing more advanced tasks. May lead lower level employees as assigned.	numerically orders. Maintains accurate files, logs and records. Operates section equipment and machines.	May assist in maintenance and control of storage media such as tapes and/or disk packs. May record, classify, catalogue and file media and maintain accurate libraries. May mount and dismount tapes and/or disk packs and adjust peripheral machines. May assist in basic installation and/or set up of computer equipment. Performs related duties.
Job Description Min. Experience (# of Years)	related to input and/or output control, tape management or computer operations. Works under the general supervision of an IS employee of higher grade in the performance of routine tasks; receives closer supervision when performing more advanced tasks.	computer installation. Codes, sorts, alphabetizes, numerically orders. Maintains accurate files, logs and records. Operates section equipment and machines. Checks work for errors. Sorts, labels, classifies and/or packages data processing materials for distribution. Provides prompt and timely distribution of output to	media such as tapes and/or disk packs. May record, classify, catalogue and file media and maintain accurate libraries. May mount and dismount tapes and/or disk packs and adjust peripheral machines. May assist in basic installation and/or set up of
	related to input and/or output control, tape management or computer operations. Works under the general supervision of an IS employee of higher grade in the performance of routine tasks; receives closer supervision when performing more advanced tasks. May lead lower level employees as assigned.	computer installation. Codes, sorts, alphabetizes, numerically orders. Maintains accurate files, logs and records. Operates section equipment and machines. Checks work for errors. Sorts, labels, classifies and/or packages data processing materials for distribution. Provides prompt and timely distribution of output to users. - Skill in performing arithmetical computations - Ability to operate a computer keyboard and related	media such as tapes and/or disk packs. May record, classify, catalogue and file media and maintain accurate libraries. May mount and dismount tapes and/or disk packs and adjust peripheral machines. May assist in basic installation and/or set up of

	Position Category	Position Title	Industry Position Titles
	Computer Operators	(9.2) Computer Operator 2	Computer Operator
Job Description	and/or output control, tape management or computer	Performs a full range of duties in area of computer operations support such as input and/or output control, tape management or computer operations. Operates, maintains and monitors electronic data processing computer equipment and peripheral devices. Maintains accurate records, logs, documentation and inventories. Analyzes, diagnoses and resolves simple operating, equipment or telecommunications problems. Responds to user questions.	Checks quality and accuracy of jobs according to established policies and procedures. May maintain and control libraries of storage media. May assist in installation and/or set up of computer equipment such as wiring, cabling and connecting terminals and peripheral devices. May mount and dismount tapes and/or disk packs. May operate and monitor telecommunications equipment. May prepare work for computer processing. May assist in scheduling and monitoring work submitted for computer processing. Performs related duties as required.
Min. Experience (# of Years)	2 years		
Required Experience/ Knowledge/Skills	"Computer Operator 1" plus: - Considerable knowledge of computer operations principles, practices and procedures - Knowledge of methods, procedures and techniques for processing computer generated output - Knowledge of electronic data processing including storage, retrieval, input and output media	 Knowledge of computer operations as related to library maintenance and storage Knowledge of procedures for storing and handling of magnetic media used in computer operations Interpersonal skills Oral and written communication skills Ability to operate and maintain computer equipment and devices 	 Ability to analyze and diagnose operational problems and take appropriate corrective action Ability to prepare and maintain accurate working files and production records Ability to run, schedule and monitor computer jobs Ability to accurately perform tasks such as coding, sorting, alphabetizing and numeric ordering
Desired Environments/ Languages/Skills (depending on specific staffing request)	 IBM 308x and/or 3090 computers or equivalent JES2 OS/MVS operating system 	- Peripheral devices (readers, punches, and printers)	
	Position Category	Position Title	Industry Position Titles
	Security Specialists	(10.1) Security Analyst	Security Analyst, Security Specialist
Job Description	Works with DOIT's extranet team to ensure the security of DOIT's extranet networks. Approves changes in access for third parties.	Works with other teams in DOIT to develop applications for use over the extranet/Internet. Consults with the extranet/Internet teams on the	various security technologies in place. Prototypes new technologies for use on the extranet/Internet.
Min. Experience (# of Years)	4 years		
Required Experience/ Knowledge/Skills	 Strong understanding of all current technologies, good understanding of emerging technologies and strong understanding of business impact of 	technology (e.g. relative strengths and weaknesses of current security products, especially in heterogeneous networks)	 Excellent written and verbal communication skills Experience in participating in or leading of complex technical projects
Desired Environments/ Languages/Skills (depending on specific staffing request)	- Experience with Cisco router and switch platforms (strong emphasis on ACLs), network-based Intrusion Detection Systems (ISS Real Secure and ODS), cryptography (SSL, IPSec, PGP), Checkpoint firewalls (IOS Firewall and PIX)	 Experience with UNIX-based system (including C Shell programming experience), NT security, and strong knowledge of TCP/IP Incident response experience 	 Data security Network security HIPAA security

	Position Category	Position Title	Industry Position Titles
	E-Commerce	(11.1) E-Commerce-Systems Developer	Design Expert, Information Architect
Job Description	Thoroughly understands all the technical and security aspects of deploying a Web Services-based solution. This includes the analysis/design,	integration, and testing of multiple systems in a complex environment. Works with application developers to ensure that programs communicate	and share information through the use of product- specific or standard Application Programming Interfaces (APIs).
Min. Experience (# of Years)	6 years		
Required Experience/ Knowledge/Skills	 Requires a wide range of both consulting and technical skills. Ability to quickly learn and teach others new technologies 	 Experience with all phases of software development lifecycle Familiarity with all common aspects of Web application design, development and integration 	with security solutions - Ability to identify and discuss alternative approaches
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Experience in usability engineering w/ demonstrated understanding in how design and technology fit together Proven expertise in human-centered Web site design 	- Experience in analyzing content areas, developing organizational concepts, establishing information hierarchies, applying interface design principles and synthesizing these ideas into a comprehensive information architecture	- Expertise in information design which is compatible with the requirements of display and interaction on the Web
	Position Category	Position Title	Industry Position Titles
	E-Commerce	(11.2) E-Commerce-Technical Analyst 1	Developer, Webmaster
Job Description	Develops and maintains approved State Web sites. Works with a variety of content providers and departments and also originates content.	Programs HTML and uploads pages on to the site, and integrates multimedia assets and applications into the site. Develops and maintains a strategic plan for State Internet presence based on Agency priorities, policy directions, and goals. Other duties include: creates enhancements and modifications to State Web site; organizes and maintains the site;	adapts to a changing scene with sometimes conflicting priorites; assesses new standards, technologies, trends, and formulates strategies and plans for enhancing the site; maintains cross-platform and cross- browser compatibility so that the Web site is accessible from a variety of different environments.
Min. Experience (# of Years)	6 years		
Required Experience/ Knowledge/Skills	 Web development experience with Windows 2000/NT, Unix and Macintosh platforms Excellent time and project management skills as well as organizational and personal skills to work with a variety of people 	 Strong design sense along with a methodical attention to detail Ability to work as team member and independently with minimal supervision 	 Interpersonal skills Oral and written communication skills
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Working knowledge of: FrontPage, MS Word, Excel, Powerpoint, QuarkXpress, PageMaker, Illustrator, Photoshop, Java Solaris, Netscape, message boards, banner ads, streaming video/audio and Shockwave Ability to: use a web editor, create/edit gifs and jpegs and create transparent gifs 	- HTML and design skills (Basic fluency in HTML plus knowledge of the latest versions, general understanding of HTML and the capabilities of Web browsers plus constraints involved in designing for the Web, understanding of principles of good Web design, professional and contemporary design experience)	- UNIX and UNIX Shell Scripting, TCP/IP and Wide Area Networking, CGI scripting, JavaScript, Java, PERL, ActiveX, Active XControls, C/C++, VB Script

	Position Category	Position Title	Industry Position Titles
	E-Commerce	(11.3) E-Commerce-Technical Analyst 2	Sr. Developer
Job Description	Provides high-level development engineering support, hands-on design, development, maintenance, and programming support to projects and infrastructure support activities. Develops enterprise applications in Web environment.	Implements applications in a distributed object environment. Supports multiple application development/programming efforts simulataneously. Provides back-up for consulting support for infrastructure consisting of servers and related software products.	Performs requirements assessments, application coding/testing/debugging, consulting with other developers and users, integration of commercial indexing and search technologies, integrations of version control and configuration management tools.
Min. Experience (# of Years)	7 years		
Required Experience/ Knowledge/Skills	 Experience handling all aspects of Internet application development Understanding of principles of good web design 	- Application development experience w/ HTML, XMLSQL, Javascript, Java, Active Server Pages and building COM objects using VB and/or C++	- Oral and written communication skills
Desired Environments/ Languages/Skills (depending on specific staffing request)	- Experience w/ web-connected databases such as Oracle, Sybase and UDB/DB2	- Experience w/ Visual Interdev and E-Commerce software	- Windows NT/2000/XP, Directory Services, LDAP, and JAVA Native Interface
	Position Category	Position Title	Industry Position Titles
	E-Commerce	(11.4) E-Commerce-Technical Analyst 3	Server Administrator
Job Description	Administers servers hosting Internet applications in a production e-business environment. Performs a wide variety of server tasks including, but not	limited to: installation, configuration and administration of web servers, monitoring, performance tuning, access control, encryption,	
Min. Experience (# of Years)	8 years		
Required Experience/ Knowledge/Skills	 Clear understanding of various technology (e.g. DNS, TCP/IP, Firewall, NT, HTML/XML, Scripting) Extensive working knowledge in NT/W2K troubleshooting, security & administration 	 Good oral and written communications Strong analytical and problem solving abilities Solid background in Lotus Domino administration 	- Experience w/ one major Java application server such as IBM WebSphere or BEA WebLogic Server
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Understanding of various middleware software products (e.g., JDK, JRUN, Perl) Ability to migrate Web server environment from various platform combinations 	- Ability to document processes and procedures related to Web server administration	- Experience in an NT environment as well as certification in relevant technolgoies

	Position Category	Position Title	Industry Position Titles
	E-Commerce	(11.5) E-Commerce-Technical Analyst 4	Graphic Designer
Job Description	Develops and executes Web-based graphic design and layout solutions for the State. Assists in the development of artistic concept creations,	refinement of direction, and final refinement toward production. Responsible for a broad variety of design assignments from concept through final	production, working with Content Administrators and other stakeholders.
Min. Experience (# of Years)	9 years		
Required Experience/ Knowledge/Skills	 Experience in the design, creation, and editing of content for Web sites, including site maintenance and updating of site content Familiarity with transferring data and files from platform to platform in various computer environments 	 Experience with software products like PageMaker, Photoshop, AutoCAD, Word, Freehand, Corel Draw and Illustrator Ability to design in a wide range of styles (illustration, animation, shockwave, interface design, 3D rendering) and feel 	 Ability to design effective user interface Ability to create graphics that can be optimized for different platforms and browsers
Desired Environments/ Languages/Skills (depending on specific staffing request)	 Experience with Typography, Identity design and/or Packaging, Online design, Information design, and/or Interactive design Ability to refresh an existing Web site identity or create a new, unique Web site identity 	- Ability to create customized logos and page templates for Web sites, design appropriate look and feel, and design effective user interface	 Ability to create graphics that can be optimized for different platforms and browsers Strong skills in HTML, XML, Dreamweaver and Flash