

Nebraska Information Technology Commission

Project Proposal Form

**New or Additional State Funding Requests
for Information Technology Projects**

FY2007-2009 Biennium

| | |
|----------------------|--|
| Project Title | WCC Internet Enhancement and Security |
| Agency/Entity | Workers' Compensation Court |

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Notes about this form:

1. **USE.** The Nebraska Information Technology Commission (“NITC”) is required by statute to “make recommendations on technology investments to the Governor and the Legislature, including a prioritized list of projects, reviewed by the technical panel, for which new or additional funding is requested.” Neb. Rev. Stat. §86-516(8) In order to perform this review, the NITC and DAS Budget Division require agencies/entities to complete this form when requesting new or additional funding for technology projects.
2. **WHAT TECHNOLOGY BUDGET REQUESTS REQUIRE A PROJECT PROPOSAL FORM?** See the document entitled “Guidance on Information Technology Related Budget Requests” available at <http://www.nitc.state.ne.us/forms/>.
3. **DOWNLOADABLE FORM.** A Word version of this form is available at <http://www.nitc.state.ne.us/forms/>.
4. **SUBMITTING THE FORM.** Completed project proposal forms should be submitted as an e-mail attachment to rick.becker@nitc.ne.gov.
5. **DEADLINE.** Completed forms must be submitted by September 15, 2006 (the same date budget requests are required to be submitted to the DAS Budget Division).
6. **QUESTIONS.** Contact the Office of the CIO/NITC at (402) 471-7984 or rick.becker@nitc.ne.gov

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Section 1: General Information

| | |
|--------------------|---------------------------------------|
| Project Title | WCC Internet Enhancement and Security |
| Agency (or entity) | Nebraska Workers' Compensation Court |

Contact Information for this Project:

| | |
|------------------|--------------------------------------|
| Name | Randall Cecrle |
| Address | 1221 N Street, Ste 402, PO Box 98908 |
| City, State, Zip | Lincoln, NE 68508-8908 |
| Telephone | 402-471-2976 |
| E-mail Address | IT.Manager@wcc.ne.gov |

Section 2: Executive Summary

Provide a one or two paragraph summary of the proposed project. This summary will be used in other externally distributed documents and should therefore clearly and succinctly describe the project and the information technology required.

This project is a multi-year project that will procure, develop, install, and support Court enhancements in base technical infrastructure in preparation for an expanded Internet presence and provide enhanced levels of security.

In this phase of the project, the court will address:

- Internet Server Redundancy and Load Balancing
- Application Security Assessments

Section 3: Goals, Objectives, and Projected Outcomes (15 Points)

1. Describe the project, including:
 - Specific goals and objectives;
 - Expected beneficiaries of the project; and
 - Expected outcomes.

Goals, Objectives, Outcomes

The court has several internal "Business Line" re-engineering projects in various stages of development. As the court completes these projects with the implementation of new application systems and databases, it will be positioned to begin creating public accessible Internet applications. These Internet applications require a common platform of technology that provides high levels of up time and reasonable response time for the public while providing increased levels of security to the courts databases and the states internal network in general.

Security is a quality issue and in the "Cost of Quality" formula are "Prevention Costs" that must be incurred to avoid perceived future "Costs of Failure."

In this phase of the project, the court will address:

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- Internet Server Redundancy and Load Balancing
- Application Security Assessments

Ultimate beneficiaries will include all external stakeholders of the court, including attorneys, insurance companies, injured employees, employers, etc whom will have a need for reliable access to court systems and data through the Internet.

2. Describe the measurement and assessment methods that will verify that the project outcomes have been achieved.

Internet access by nature seems to be slow in responsiveness and unreliable. There are numerous reasons that are outside the control of the court. If the court can assure that Internet response times are within five seconds 95% of the time and application up-time is 98%, the court believes it has achieved its objectives.

The ideal goal of security assessments and in particular application assessments would be to find zero security "holes." Realistically, the assessments would point out areas where the court can improve in both "hardening" its infrastructure and improvements in software development techniques to "plug" the holes.

3. Describe the project's relationship to your agency comprehensive information technology plan.

This project was discussed in 2.3. Projects Planned to be Started in FY2007-08 of the *AGENCY INFORMATION TECHNOLOGY PLAN FOR 2007-09 BIENNIAL BUDGET*.

Section 4: Project Justification / Business Case (25 Points)

4. Provide the project justification in terms of tangible benefits (i.e. economic return on investment) and/or intangible benefits (e.g. additional services for customers).

The Internet creates expectations and frustrations. Reasonable internet response time and available system access creates good will and a satisfying experience for the public user. As the court makes available data, such as Proof of Coverage, doctors, hospitals, etc. will come to rely on these systems to help them perform their business functions. The court is planning on implementing an Internet-based, integrated, interactive e-filing / case management system to be used by attorneys and others outside the court. Base infrastructure technology enhancements implemented through this project will create a reliable environment for the courts external partners to function within.

5. Describe other solutions that were evaluated, including their strengths and weaknesses, and why they were rejected. Explain the implications of doing nothing and why this option is not acceptable.

The court has met and exchanged emails with the Office of the CIO staff about Internet and security issues. The following areas have been reviewed and discussed with the Office of the CIO and are not addressed in this project, but are worthy of explanation to understand the work effort by the court in these areas.

Firewall

By the time this project has progressed through the NITC review process and its parallel budget request process, the court will be or will have implemented a Firewall Appliance similar to the devices

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installed at the Treasurers Office, Department of Corrections, Department of Labor, and at the county courthouses. The implementation of this firewall will have greatly reduced our exposure to Internet hackers, viruses, and spyware. It will also allow us to place our Internet servers in a DMZ and isolate them from the rest of the network.

Microsoft Certificate Server

The court researched options to installing its own Microsoft Enterprise Certificate Server. A server of this nature provides authentication, authorization, and encryption features at a device level. The court agrees with the Office of the CIO that this type of server should be implemented at an enterprise level. The Office of the CIO does not have such a server currently implemented, so the court will wait for Office of the CIO to schedule and implement.

SPAM Appliance

The court has been involved informally with the project to acquire a SPAM appliance at the enterprise level and will work with the Office of the CIO in facilitating its implementation as associated with the courts Lotus Domino Mail/Application server.

The following are part of this project for the next two years.

Internet Server Redundancy and Load Balancing

The court currently has one physical Internet server which it uses to provide secured file transfer (FTP) to trading partners and a search engine (dtSearch for the Web) that provides public access to the courts Decisions and Orders.

The court has had discussions with the Office of CIO and has received preliminary rates for leasing of load balancing equipment from the Office of the CIO. The Office of the CIO currently does not have load balancing implemented. Load balancing is useless unless there is more than one server in place. The court has not yet determined whether it will buy hardware or lease a virtual server through the Office of the CIO. The financials reflect a purchase given that is the greatest cost scenario. The court will be completing a Server Re-engineering design with the Office of the CIO in the first half of the Fiscal Year of 2007 and will have a better understanding on how to approach this at that time.

If the court does nothing in this area, it runs the risk of its Internet applications running slower than what is acceptable or not being available. When either of these occurs, the court runs the risk of external users stopping use of the internet systems and defeating the courts efforts to streamline the work of the court and improve the information it manages and makes available.

Application Security Assessments

The court currently participates with the rest of state government in security assessments at the network/server level. The previous assessment found minor issues that the court took steps to correct.

An Application Security Assessment tests the computer application software that provides business level functions. The first computer software that would be tested for the court would be the public Internet Proof of Coverage application.

One other agency has performed an Application Security Assessment (also called Application Penetration Testing). Information provided by the Office of the CIO describes the test as follows.

An application penetration test should only be conducted after an extensive application security assessment has been completed.

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The application security assessment consists of two components, and external assessment and an internal assessment. Under the External assessment, the application is scanned looking for open ports, what services are running, what vulnerabilities are there, i.e. SQL injection, parameter tampering, etc... The main objective of the external assessment is to determine what a hacker or a general user can see and do from the Internet. Can they access portions of the applications that they should not? Can they escalate privileges via a known bug? Care is taken to not disrupt services while performing the security assessment.

The internal assessment is much more intensive. It involves many of the same functions as the external assessment in addition to a detailed examination of data flows, application structure, securing coding practices, database access methodologies, data storage, and general policies concerning use of the application. The internal assessment is performed with user accounts with varying roles and functions within the applications, once again testing role isolation and improper escalation of privileges.

A penetration test is a very narrowly defined attack against the application. Whereas the security assessment will show you the vulnerabilities and gaps in your application, a penetration tests only goal is to gain control of a particular function/role. It is analogous to playing capture the flag. One objective, one goal... No rules for obtaining the goal, if the system crashes because of something you've done, that's ok... its part of the engagement. Once again the objective of a penetration test is to prove your system is safe from outside attacks.

If the court does nothing, it increases the risk of compromised state systems and the loss of information.

6. If the project is the result of a state or federal mandate, please specify the mandate being addressed.

No.

Section 5: Technical Impact (20 Points)

7. Describe how the project enhances, changes or replaces present technology systems, or implements a new technology system. Describe the technical elements of the project, including hardware, software, and communications requirements. Describe the strengths and weaknesses of the proposed solution.

Internet Server Redundancy and Load Balancing

The court does not currently have either server redundancy or load balancing in place in its Internet environment. It will require a load balancing device, probably leased through the Office of the CIO and second Internet server either physical or virtual with additional software licenses.

Application Security Assessments

The outcome of application security assessments will be improved software applications and/or the implementation of additional safeguards that reduce the risks of compromise systems and networks or stolen information. The court will work with the Office of the CIO and a selected outside company in performing such an assessment.

8. Address the following issues with respect to the proposed technology:
- Describe the reliability, security and scalability (future needs for growth or adaptation) of the technology.
 - Address conformity with applicable NITC technical standards and guidelines (available at <http://www.nitc.state.ne.us/standards/>) and generally accepted industry standards.
 - Address the compatibility with existing institutional and/or statewide infrastructure.

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The whole purpose of this project is to create an environment that is reliable, secure, and scalable. The court will work with the Office of the CIO in configuring and selecting appropriate load balancing hardware and whether to lease virtual servers for its Internet servers from the Office of the CIO or purchase its own.

The court will continue to work with the Office of the CIO and review applicable NITC technical standards and guidelines to assure conformity.

Section 6: Preliminary Plan for Implementation (10 Points)

9. Describe the preliminary plans for implementing the project. Identify project sponsor(s) and examine stakeholder acceptance. Describe the project team, including their roles, responsibilities, and experience.

All project plans below are estimates and will be revised based as better information is gathered during the development life-cycle.

The court is doing complete Server Re-engineering design during the first half of the Fiscal Year 2007. The design outcome will create the framework for implementing the Internet Server Redundancy and Load Balancing early in Fiscal Year 2008. The Application Security Assessment will be performed as part of the implementation.

The project sponsor is the Court Administrator. The Information Technology project leader is the courts Lead Infrastructure Analyst. The Information Technology Manager will provide analysis and assistance in strategic and technical decision making. The Office of the CIO – Server Support staff will participate as necessary.

Experience

| Title | Total | In Current Position |
|---|-------|---------------------|
| Lead Infrastructure Analyst (IT Project Leader) | 17+ | 10 months |
| IT Manager/DBA | 30 | 11 |

10. List the major milestones and/or deliverables and provide a timeline for completing each.

Second Quarter Fiscal Year 2008 - Internet Server Redundancy and Load Balancing and Application Security Assessments

11. Describe the training and staff development requirements.

There is possibility that there will need to be training to manage the Load Balancing device, but the current assumption is that the Office of the CIO – Server Support staff will manage that device.

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12. Describe the ongoing support requirements.

Any hardware and software will need to be incorporated within the courts hardware replacement cycle and will be placed on a support and upgrade contracts.

Section 7: Risk Assessment (10 Points)

13. Describe possible barriers and risks related to the project and the relative importance of each.

14. Identify strategies which have been developed to minimize risks.

(Combined Answer)

- The Load Balancing device will perform poorly.
The court will work closely with the Office of the CIO in the selection of the device and testing.
- The addition of the additional workload will stretch Infrastructure staff beyond their limits of time and energy.
Part of the goals of the Server Re-engineering project is to move certain functions over to the Office of the CIO – Server Support section to create additional time for limited court staff. This includes getting out of the business of server backup management by moving to leasing of backup services on the Office of the CIO Enterprise Backup system. It may also include leasing either physical and/or virtual servers from the Office of the CIO so that the court does not have to perform hardware management or procurement.

Section 8: Financial Analysis and Budget (20 Points)

15. Financial Information

Financial and budget information can be provided in either of the following ways:

- (1) If the information is available in some other format, either cut and paste the information into this document or transmit the information with this form; or
- (2) Provide the information by completing the spreadsheet provided below.

Instructions: Double click on the Microsoft Excel icon below. An imbedded Excel spreadsheet will be launched. Input the appropriate financial information. Close the spreadsheet. The information you entered will automatically be saved with this document. If you want to review or revise the financial information, repeat the process just described.



Excel Spreadsheet
(Double-click)

Financial information from the embedded spreadsheet appears at the end of this PDF version of the document.

16. Provide a detailed description of the budget items listed above. Include:

- An itemized list of hardware and software.
- If new FTE positions are included in the request, please provide a breakdown by position, including separate totals for salary and fringe benefits.

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- Provide any on-going operation and replacement costs not included above, including funding source if known.
- Provide a breakdown of all non-state funding sources and funds provided per source.

(See Spreadsheet for Details.)

Projected Application Security Assessment and Load Balancing Lease cost estimates were provided by the Office of the CIO.

17. Please indicate where the funding requested for this project can be found in the agency budget request, including program numbers.

Program Number 530.

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Section 8: Financial Analysis and Budget

WCC Internet Enhancement and Security

(Revise dates as necessary for your request.)

| | Estimated Prior Expended | Request for FY2007-08 (Year 1) | Request for FY2008-09 (Year 2) | FY2009-10 (Year 3) | FY2010-011 (Year 4) | Future | Total | | |
|---------------------------|--------------------------|--------------------------------|--------------------------------|--------------------|---------------------|-------------|---------------|--|--|
| 1. Personnel Costs | | | | | | | \$ - | | |
| 2. Contractual Services | | | | | | | | | |
| 2.1 Design | | | | | | | \$ - | | |
| 2.2 Programming | | | | | | | \$ - | | |
| 2.3 Project Management | | | | | | | \$ - | | |
| 2.4 Other | | \$ 46,000.00 | | | | | \$ 46,000.00 | \$ 46,000 2.4 Other | |
| 3. Supplies and Materials | | | | | | | \$ - | Load Balancing equipment setup and \$6,000 configuration | |
| 4. Telecommunications | | | | | | | \$ - | \$40,000 Application Security Assessment | |
| 5. Training | | | | | | | \$ - | | |
| 6. Travel | | | | | | | \$ - | | |
| 7. Other Operating Costs | | \$ 4,600.00 | \$ 4,600.00 | \$ 4,830.00 | \$ 5,071.50 | \$ 5,325.08 | \$ 24,426.58 | \$ 4,600 7 Other | |
| 8. Capital Expenditures | | | | | | | | \$2,500 Load Balancing Lease 2nd Internet Server | |
| 8.1a Hardware - One Time | | \$ 10,000.00 | | | \$11,500 | | \$ 21,500.00 | \$2,100 Footprint | |
| 8.1b Hardware - Cont | | | \$ 1,700.00 | \$ 1,785.00 | \$ 1,874.25 | \$ 1,967.96 | \$ 5,359.25 | | |
| 8.2a Software - One Time | | \$ 3,000.00 | | | | | \$ 3,000.00 | | |
| 8.2b Software - Cont | | \$ 150.00 | \$ 157.50 | \$ 165.38 | \$ 173.64 | \$ 182.33 | \$ 828.84 | | |
| 8.3 Network | | | | | | | \$ - | \$10,000 8.1a Hardware - One Time | |
| 8.4 Other | | | | | | | \$ - | \$10,000 2nd Internet Server | |
| TOTAL COSTS | \$ - | \$ 63,750.00 | \$ 6,457.50 | \$ 6,780.38 | \$ 18,619.39 | \$ 7,475.36 | \$ 103,082.63 | 8.1b Hardware - Cont | |
| General Funds | | | | | | | \$ - | Maintenance and Support | |
| Cash Funds | | \$ 63,750.00 | \$ 6,457.50 | \$ 6,780.38 | \$ 18,619.39 | \$ 7,475.36 | \$ 103,082.63 | | |
| Federal Funds | | | | | | | \$ - | \$ 3,000 8.2a Software - One Time | |
| Revolving Funds | | | | | | | \$ - | \$3,000 Internet Server | |
| Other Funds | | | | | | | \$ - | Software | |
| TOTAL FUNDS | \$ - | \$ 63,750.00 | \$ 6,457.50 | \$ 6,780.38 | \$ 18,619.39 | \$ 7,475.36 | \$ 103,082.63 | 8.2b Software - Cont Upgrade and Support | |
| | | Biennium Total | \$ 70,207.50 | | | | | | |