

# ***Nationwide Infrastructure Financing for Technology Innovations and Initiatives in Education and Electronic Government***

## ***The NIFTIIEE Way !***

### **★ Mission parameters**

Our nation's rapidly deploying **Web interfaced** information superhighway demands the establishment of financing mechanisms, similar in scope to existent highway transportation financing processes. The NIFTIE program would act as a venture capital catalyst to enhance broadband capabilities for educational institutions, and enable information systems infrastructure development for **Web interfaced** e-educational initiatives and innovations. Through the provision of investment capital awarded to designated educational institutions or governmental entities, fee-based training and life-long learning programs would be re-engineered to create e-commerce modeled solutions that are portable, interoperable and Web networked. Excess "dark fiber" inventory from fiber optic infrastructure deployment would be owned/leased or "franchised" to Web hosting entities. In addition, dormant computing resources could be "rented" to private or non-profit companies for use during off-peak hours.

The initial investment would be leveraged by state, county, city and local school district resources; including, general obligation bonds, revenue or technology bonds, available physical plants and available human resources. An interEgovernmentally networked implementation process would be designed to administer the program. All recipients would be required to replenish the fund through revenues or fees generated by their respectively re-engineered, e-commerce oriented, e-educational service delivery system.

## ***Show Us The Money !***

### **★ Establish the financing mechanism**

† Initial financing would be authorized through surplus revenues. The **Web-based Educational Commission** could explore other financing options. Additional sources could include leveraging private sector venture capital for infrastructure deployment.

† The NIFTIE financing repository would be replenished through repayment of

venture capital awards by franchise fees, leasing agreements, loan payments or payments automatically generated within fee-for-service transaction processes

- † Pyramidal resources would leverage national venture capital. Implementation of the program would be contingent upon the establishment of clearly inventoried resources, produced by a networked hierarchy of governmental entities, that would constitute an interEgovernmentally networked transactions processing system (**tps**). The fund would not act as direct revenue sharing, rather as the catalyst for an implementation structure that stretches through and among federated governmental and educational institutions.
- † Monies could only be utilized for the development or purchase of “*physical*” assets. This means that only hardware or software purchases could be made using this capital. The purpose for this requirement is two-fold. First, this limitation would force participants to account for previously discussed pyramidal resources; i.e., the financing would not pay for personnel, yet it could pay for RAD software. Secondly, the financing repository administrators could acquire the “physical” assets in the event of default.
- † The monies could be awarded to prototype research or for established **transactions processing or service delivery systems** that incorporate Web interfaced, e-commerce modeled revenue streams. An example would be the current programs taking place in Gloucester County. Rowan University, the Gloucester County Community College, and the Gloucester County Business and Industry Training Institute provide Web-based educational and training resources to regional businesses. Rowan University is in the process of promulgating a feasibility study to establish a High Technology Center and High Technology Business Incubator for the region. Fiber optic infrastructure deployment is crucial to the success of their endeavor. The next logical step would be to share broadband capabilities with governmental and educational institutions throughout the region. The implications are that a single enterprise-wide interEgovernment solution could be replicated to multiple educational and governmental entities.
- † Private sector fees for service would be the fundamental return on investment driver. Customized software products developed through the NIFTIIE network could have a portion of the copyrights or royalties earned from their sale dedicated to financing repository replenishment. Lease or franchise fees from infrastructure use would add to the replenishment pool.

## ***Who Gets The Money!***

### **★ Design the recipient evaluation and awards process**

- ‡ The governmental and educational institution applicants must *document* clearly defined revenue or fee-driven goods/services transactions processing systems (**tps**) that can be, or already are Web interfaced and modeled from an e-commerce paradigm. ***The key component for the success of this program is that the tps should repay the investment and become financially self-sustaining. In this fashion, the financing repository will replenish itself in lean budget years, while benefiting from periodic infusions in surplus budget years.***
- ‡ The participants must *document* expertise in information technology that demonstrates a history of implementation successes.
- ‡ The awards should be assigned using best-practices models. Benchmarking from existing **tps** has the advantage of parallel systems implementation capability and Rapid Application Deployment (RAD). Prototyping allows for micro-level design and development. Replicating parameters assure portability over multiple networked environments.
- ‡ The identification, inventory and *documentation* of pyramidal resources should be the key factor in assigning monies to projects. The applicant should provide a Web readable implementation plan complete with letters of intent to participate, financial and budget documents, organizational chart, workflow re-engineering strategies and process models, with hardware/software requirements clearly delineated.
- ‡ After preliminary approval is granted by the lead agency, letters of intent to participate should be replaced by implementation contracts to insure commitment by stakeholders.

## ***Who Does The NIFTIIEE Work !***

### **★ Determine an implementation structure**

- ‡ The enabling legislation would designate the financial repository and the lead agency for implementation. The U S Department of Commerce (DOC) would be a collaborative lead agency, with educational institution applications reviewed by the US Department of Education and technology specifications evaluated by the Governmental Services Administration. The DOC would administer initial screening, final approval and financing for NIFTIIEE projects. \*

*\* In order to implement the NJ School Facilities Financing Act, New Jersey has devised a structure whereby the Department of Education evaluates and approves strategic plan applications, while the Economic Development Authority administers the financing processes. This configuration was designed to take advantage of the Authority's experience with implementing major bond financing and to leverage private sector venture capital investment.*

- † All applications would be processed through an implementation agency empowered by the applicants. For example, regional applicants might empower their state's Chief of Information Officer to coordinate multi-agency applications. The states' respective CIO might become the lead agency and repository for applications to the DOC. School district, county or city administrators could utilize Urban Enterprise Zone Authorities, Economic Development/Redevelopment Authorities or Improvement Authorities to process applications and forward them to state CIO's for transmission to the DOC.
- † The Congressional Office of Technology Assessment could be assigned the task of legislative oversight. Similarly, Legislative Committees could fulfill the same tasks for the states, while county boards or commissions would engage in the oversight process locally.
- † Advisory councils, commissions or consortiums could be networked to provide invaluable assistance in the design stage of the implementation process. Some examples could include;

- The Web-based Education Commission
- United States Internet Council
- National Associations for Governors and Counties
- State Planning Associations
- Leagues of Municipalities

## ***Where's The Beef !***

### **★ Monitor implementation and financing repository replenishment**

- † The enabling legislation should empower a financing repository network to track and insure financing replenishment. Once again, the financing would not act in the same manner as the transportation trust fund, which collects monies deposited from gasoline taxes. **All transactions will be electronically linked through the Internet.** Consequently, business to business protocols could be embedded that would automatically direct deposit the financing replenishment portion of fees paid for each transaction processed.

- † Web interfaced, electronic transactions can readily utilize quantifiable performance and productivity measures. If there was a reduced revenue stream that was affecting projected repayment schedules, analytical models could conduct an automated audit to provide counter measures for the anomaly.
- † The security of Web interfaced transactions would need to be monitored continuously. The **NIFTIIEE** network would incorporate design features for secure Web portal access that safeguard operations, automate monitoring and encrypt data sharing activities.
- † Periodic evaluation should also be conducted to assess ongoing upgrades, identify reengineering opportunities and reconfigure "peopleware" enabling strategies. The **NIFTIIEE** network should employ a present value fee structure that would generate revenues *sequestered* for future infrastructure deployments and system upgrades. The limitations imposed by legacy systems could be avoided by insuring systems life cycle assessments are conducted biennially. **NIFTIIEE** managers should be encouraged to take a perpetual enhancement approach to skill set development for themselves and staff.
- † A Web interfaced **NIFTIIEE** network could readily employ a feedback option that would accumulate data to evaluate constituent participation and customer satisfaction.

## ***Is This NIFTIIEE or WIFTIIEE ?***

### **★ Apply the financial paradigm to synergize an *egovernmental/educational* systems network**

- † The federal government initiates the NIFTIIEE program by:
  - establishing the fund through surplus revenues
  - designing implementation strategies
  - assigning tasks to lead agencies or commissions
  - awarding venture capital to qualified applicants.
- † The *state* governments design the SIFTIIEE programs by:
  - establishing state financing through surplus monies, bond referendum or economic development authorities
  - benchmarking best practices implementation models
  - assigning tasks to lead agencies or commissions
  - leveraging private sector venture capital

- † The city, county and municipal *governments* design the GIFTIIEE programs by:
  - establishing a regional financing repository through surplus monies, bond referendum, or financing authorities
  - assigning tasks to lead agencies or commissions
  - leveraging private sector venture capital
- † Regional consortiums could synergize networking efforts by establishing a pool of intellectual capital, including; private sector consultants, educators, non-profit foundations and think tanks.
- † International governments on the *World Wide Web* could design WIFTIIEE strategies with the UN and the IMF joining in the fun

## ***The NIFTIIEE Conclusion ?***

***E-commerce is the megatrend ushering in the new millennium. Governments have been decidedly ad hoc in their approaches to Web interfaced systems development and implementation. Private sector accomplishments in ecommerce, particularly in the business to business realm, far out-shadow public sector efforts. The establishment of a networked, nationwide financing mechanism for Web interfaced e-governmental/educational initiatives would direct scarce financial resources toward best practice prototypes and paradigms. The two fundamental requirements of the NIFTIIEE network; that venture capital is provided for Web interfaced, electronic transaction processing systems infrastructure, and, that the investment is paid back into the NIFTIIEE investment pool. Such a financing mechanism should insure a permanent venture capital pool inured from the vagaries of economic downturns. E-governmental/educational cyberspace pioneers could blaze the trail for a new era of World Wide Web relations.***