Why has Indiana Implemented Two-Dimensional Bar Coding?

The Indiana Department of Revenue is nationally recognized as the first state revenue agency to use two-dimensional bar coding in the processing of tax returns.

Indiana receives over 2.8 million individual tax forms each year, half of which are received in the two weeks surrounding April 15th. Use of electronic filing has replaced over 529,000 of these paper documents, and is growing every year, but not fast enough. Many of the Indiana taxpayers are still more comfortable filing a paper document through the mail. While this reluctance to filing electronically exists, other means are necessary to bridge the gap from paper filing to electronic filing. More than half the forms received by the Indiana Department of Revenue are computer generated. This means that although the information was available in electronic format at one point, the taxpayer is printing it off, which requires the Department to re-key the form, introducing errors, delaying the processing, and consuming data entry time and money.

Two-dimensional bar coding bridges the gap by providing the speed and accuracy of electronic filing with the peace of mind associated with sending a traditional paper return. With the implementation of the client-server integrated tax system complete, the Department continues to look for ways to encourage more taxpayers to file returns electronically, using two-dimensional bar coding, over the Internet, or other ways that allow the processing of returns without manually inputting tax information.

Exactly What is a Two-Dimensional Bar Code?

The Indiana bar code initiative makes use of two-dimensional bar codes. Ordinary, or one-dimensional bar codes, store data in a horizontal dimension, or left to right. The height of the bar code allows the code to be scanned from a variety of angles and distances, and allows for printing defects or damage. By decreasing the height of several one dimensional bar codes, and then stacking them on top of each other, a vertical dimension is added, creating a two-dimensional bar code. Two-dimensional bar codes are read by moving beam scanners which raster, or scan, the code from top to bottom. Error correction and data redundancy can also be built into the code to allow for printing defects or damage. The Indiana application is using Symbol Technology’s PDF417 bar code, which allows up to 2000 to 3000 characters to be encoded in a single bar code approximately the size of a business card, or smaller.

What was Implemented in Indiana?

For the 1998 filing year, Indiana piloted the IT-40, individual tax form with several software vendors to include a two-dimensional bar code. This form was chosen because of the volume of nonelectronic returns, the narrow processing time requirement, and the large amount of data that needs to be captured. Because forms with the two-dimensional bar codes are printed rather than hand-written, there is easily enough space for the bar code on the top of the first page of the existing form next to the name and address. For the current tax year, the program was expanded to include the IT-40EZ and the IT-40PNR (part-year resident).

How Was Two-Dimensional Bar Coding Implemented?

The Indiana Department of Revenue, working with Andersen Consulting and Symbol Technologies, provides tax preparation software vendors with the piece of software (DLL) they needed to print the two-dimensional bar code as they print a completed tax form. The tax preparation software is then used by individuals and paid preparers to complete their tax form (including schedules and up to 10 W2’s). When the user decides to print, the complete tax form is printed with a two-dimensional bar code in the upper right hand corner. This bar code contains all of the information from the Form, schedules and W2s. The tax forms, schedules, and W2s are then signed and mailed via the Postal Services as usual by the taxpayer.

When received by the Indiana Department of Revenue, the bar coded returns and associated payments are scanned directly into Indiana’s integrated tax system for processing. The integrated tax system contains the software necessary to decode and decompress the data contained in the two-dimensional bar code. These returns are then validated for compliance.

The total project cost less than $55,000 for scanning equipment and took 200 workdays to complete. Additional forms will continue to be added with no additional hardware cost and less effort than the pilot program. The software already provided to the software vendors can be reused for additional forms within the Indiana Integrated Tax system.
**What Benefits have been Achieved?**

Two-dimensional bar coding reduced errors and turnaround time for approximately 189,000 taxpayers during the 1999 filing year, while saving at least $171,000. A batch of 90 paper returns typically takes 4 hours to key and validate. A batch of 90 bar coded returns can be captured in 10 – 15 minutes with an error rate of less than two percent. This has allowed the Indiana Department of Revenue to stay current on scanning returns as they are received and to immediately correct the errors.

In addition, the Department also incorporated the bar code into its free Internet filing program (I-File). Twenty-five percent of the taxpayers who completed a return over the Internet last year opted to print a hard copy for mailing purposes instead of sending it electronically. Taxpayers still receive most of the advantages of an electronically-filed return, due to the inclusion of the bar code, at no additional time or expense to them.

Indiana’s success in implementing this project has been closely watched by other state revenue agencies throughout the United States. In 2000, other states, including Illinois, Missouri, Delaware and Rhode Island, utilized the same technology for their state returns. For the 2001 filing season, at least 10 states are expected to utilize bar coding.

**When Should this Technology be Deployed?**

The greatest benefit of this technology will be received if this technology is deployed to tax forms where:

- There is a significant barrier to requiring everyone to file electronically or a requirement exists to receive a paper document including other evidence;
- The volume of returns prepared by computer before filing justifies the cost of developing alternative data capturing techniques; and
- The amount of data desired to be collected justifies the cost of developing alternative data capturing techniques.

**The Indiana TaxFax System**

During Fiscal Year 2000, the system answered 17,557 calls, which was 40% down from the 1999 fiscal year. This decrease coincides with the increased development by the Department and increased usage by taxpayers of the Department’s Internet site (at URL http://www.state.in.us/dor/) and the Indiana Package IN-X CD-ROM for obtaining tax forms and instructions.

Since both the Department’s web site and the Package IN-X CD-ROM require a computer to access, the Department continues to develop and improve the TaxFax system for taxpayers without computer and/or Internet access.

**All Major Credit Cards Accepted with I-File**

New for FY00 was the Department’s acceptance of payments by Visa, MasterCard, American Express and Discovercard for taxpayers using the I-File Internet filing method for their Indiana individual taxes. Also, as in previous years, Discovercard could be used for other forms of filing of current year individual income taxes and MasterCard/Visa for delinquent taxes.

During filing season 2001, the acceptance of major credit cards will be expanded to include all types of filing of individual income taxes, not just I-File.

**Increased Telephone Services**

New telephone technology was implemented in FY00 throughout all Divisions of the Department, allowing increased accessibility for taxpayers who call for assistance. This technology has enabled the Department to meet the peaks of telephone inquiries in a timely manner, while allowing for the flexibility of use of the same staff personnel for additional projects as needed. This endeavor was a purchase shared with the Bureau of Motor Vehicles and Workforce Development, insuring enhanced customer service to Indiana taxpayers.

**Accounts Receivable System**

Final Phase of the Department’s Returns Processing System (RPS) development began in 1999, with a rollout scheduled for January, 2001 of a new Accounts Receivable system. The result will be an increase in bills issued to taxpayers, thus speeding the collection of taxes. The system will also house a predictive dialer that will serve as a cornerstone to our phone pursuit efforts. Another addition to be noted is the ability to offset IRS refunds when taxpayers owe us money.

Enhancements continue to the Returns Processing System, as we now have all major tax types processed here. User and taxpayer suggestions are reviewed by Quality Assurance. This division continues to support system testing and review of changes. In addition to rolling out new tax year processing for all the taxes collected in RPS.

**Returns Processing Center**

The Returns Processing Center obtained a new home and new equipment in FY00. In November, 1999 the Returns Processing Center moved from its location in
Park Fletcher to a new building at AmeriPlex. In addition Logistic Support (Long Term Storage) was moved from our facility at 30th Street to the new AmeriPlex location. The Logan Building is a state of the art facility with improved storage space and racking, more work space, improved security, more parking, and a work flow design that will aid the department in doing its work more efficiently.

The planning of the new facility took nearly a year from design to completion and then another month or so for the actual move to take place. Because this facility is responsible for the deposit of nearly all the checks received by the department and receipt and data entry of all tax returns it takes a lot of planning to design the new facility and then to move everything.

The move took place in stages to allow for an orderly transition. For example, we made deposits on our new NCR 7780 transports on Wednesday then on Thursday, which was a holiday we tore down the equipment, and had it moved and reinstalled at the new location, so we were ready to make a deposit on Friday. The move took much planning and coordination with the movers, the equipment installers and our staff.

Prior to the move, we took possession of our two new NCR 7780 high speed transports used to process checks and our new Opex 50 and 51 mail handling equipment. It took us about nine months to obtain this new equipment, but it has already made us a more efficient operation. The new equipment was scheduled for installation in July and August; it was thereafter moved and reinstalled at the new location in November.

All in all, in made for a busy Fall, the results have been well worth the planning; and we are happily settled into our new home.

**Hoosier Taxpayers Received Larger Refunds Earlier in the 2000 Filing Season**

The Indiana Department of Revenue gave larger state tax refunds to Hoosier taxpayers and sent them out faster than ever.

The total number of refunds processed between January 1 and May 31, 2000, was up almost 250,000 over that period last year: 1,702,620 in 2000 for 1999 tax returns, as compared to 1,457,392 in 1999 for 1998 returns. The average refund during that same time period was up almost 36 percent, or just over $46 higher than the previous year’s average.

The larger refunds were attributed to the new tax deductions, credits and exemptions passed by the General Assembly in 1999 and signed into law by Governor Frank O’Bannon. The new Homeowners Residential Property Tax Deduction affected a great many Hoosiers, as did the new Earned Income Credit and additional exemptions for both dependent children and the elderly. Also, the renter’s deduction was increased.

The larger number of refunds being distributed earlier in the year was probably because more Hoosiers filed electronically and chose the Direct Deposit option. In the past, only those who filed their returns electronically could choose to have their refunds deposited directly into their bank accounts. In 2000, almost all taxpayers had that option. And electronic filing increased again, which greatly expedites processing; thereby getting refunds out even faster.

In fact, 1,427,193 refund checks were mailed by early June, 2000, compared to 1,339,276 checks at the same time the previous year, an increase of over six percent, or almost 88,000. By contrast, 275,427 Hoosier taxpayers asked to have their refunds deposited directly to their bank accounts, an increase of 133 percent from 118,116 the previous year.

**Personnel Division**

The Wellness Coordinator has been working with the Compliance Division, Charity Gaming Section, on the Indiana Problem Gambling Awareness Program.

Two Wellness Fairs were held during the fiscal year. The combined participation was 68% of employees in the Indianapolis area. Information shared at these fairs included demonstration/screening/samples from dermatologist, dietitians, oral health, hands, flu and pneumonia, bone density, depression, arthritis, acupuncture, color analysis, blood pressure, body fat, and hearing.

The Heart Alive program is a comprehensive heart health education and cholesterol screening program designed to last over a 12 month period. This program was completed during this fiscal year with approximately 186 Indianapolis area employees completing the program.

There was also a summer activity program called “Workout with Wellness”. Over 140 employees signed up for this individual activity program and 71 finished all the requirements successfully.

In December, 1999 another open enrollment was held for insurance. 180 employees made new elections or changes to their current policies.

During the past fiscal year the Personnel Division has continued to be involved in the reclassification of positions within our Department. We are continuing to work
Workshops on How to Raise Money Conducted for Not-for-Profit Organizations

The Indiana Department of Revenue teamed up with several other state agencies, Indiana and Purdue Universities, Indiana Gas Company and numerous tax and accountant professional societies to help sponsor workshops around the state for not-for-profit organizations on how to raise money. The workshops were conducted by the nationally recognized, Indianapolis-based Quality for Indiana Taxpayers, Inc. (QFIT).

QFIT, which has been in existence for over 13 years, assists not-for-profit organizations, as well as for-profit businesses and specializes in new businesses. Its resource center is located at 429 N. Pennsylvania Street in Indianapolis.

Increased Communication with Taxpayers

Starting in Spring, 2000, the Department began sending copies of letters sent to taxpayers whose IT-40 returns were found to have errors, as well as to their tax preparers -- as long as the taxpayer or preparer checked the “Yes” box on the tax return for authorization for the Department to discuss the tax return with the preparer.

This service should help eliminate the problem of the taxpayer contacting the practitioner too late to forestall a second billing by the Department. By being notified of Department letters show line by line errors but apply only to IT-40 returns, at this time, not to estimated payments.

Department's Annual Tax Conference

The 1999 Annual Tax Conference was held December 1 and 2. The annual conference is designed to provide Indiana Department of Revenue personnel with information relevant to the agency’s latest developments and services, ongoing projects, as well as reviews current procedures for processing tax returns.

Public Affairs

A $30,000 Innovations in American Government grant (in connection with the IRS) was used for a radio promotion of the Fed/State TeleFile filing program to Indiana college students in Bloomington, Lafayette, Muncie, South Bend and Terre Haute. The TeleFile program allows taxpayers to receive refunds faster and saves the State higher processing costs.

Articles were contributed to “La Voz Latina,” a bi-monthly Spanish language newspaper, on various tax issues.

The internally-produced video on bar coding, “How It Works,” has been shared with numerous other states around the county.