# VDATA VENTURES

December 1, 2003

Third Judicial District Attorney
Ms. Janetta Hicks
201 W. Picacho, Suite B
Las Cruces, NM  88005

Dear Janetta:

We are responding to a recent ad in the Las Cruces Sun News in which your office
expressed an interest in developing a scalable case management system.
We have prepared and enclosed a proposal for your review and consideration.

Below is a synopsis describing the history, growth, and focus of Data Ventures to give
you a better idea of our capabilities.

In the early 1990's a team of researchers at the Los Alamos National Laboratory were
developing a pattern recognition software that specialized in anomaly detection.  With
the encouragement of the lab, the two lead researchers left the lab in 1992 and started a
company called TXN to commercialize and sell this technology.  For the next few years,
TXN began doing research oriented projects for various companies, sometimes using
this software and sometimes using analytics and new development to answer specific
questions.

Also in the mid 1990's, the second largest Coca-Cola Bottling Company, Coca-Cola
Bottling Co. Consolidated, was struggling with their major retail grocery chains to sell
more Coke.  The chains told Consolidated that they wanted knowledge that would help
them grow the entire Carbonated Soft Drink category, not just Coke.  This concept was
called category management and Consolidated's Vice President of Information Systems
envisioned the analytics needed to satisfy the retailers desire, but yet consolidated did
not have the technology capabilities to get it done.

So in essence in 1995 you had a technology company, TXN, with no business
knowledge, and a business company that did not have the right technology knowledge.
These two companies got hooked up together and for the next year and half started
developing category management analytics.

As Consolidated started delivering this knowledge back to the Grocery Retailers, the response was very strong. No one was delivering such insights and the retailers wanted more. They wanted other categories than Carbonated Soft Drink and wanted further analytics. So TXN and Consolidated got together and formed a joint venture called Data Ventures in 1996 with the purpose of developing and selling category management analytics. Data Ventures moved into other categories and new retailers and began selling analytics directly to retailers and not solely through Consolidated. So the joint venture proved to be successful.

Since Data Ventures LLC was formed, we have developed analytics and business in four distinct markets.

Fraud Detection (15%)
Category Management (25%)
Out of Stock (20%)
Loyalty (40%)

One important business area is analytics around loyalty cards where we are just brushing the tip of the ice burg. This area will continue to grow and develop. We have positioned ourselves to not only follow but to lead in Loyalty card Analytics.

Currently we have eighteen people in our company. We are based in Los Alamos, New Mexico where our technology center has been since we broke away from Los Alamos National Laboratory. We have an office in Charlotte, North Carolina where our headquarters and business center is located. We have expert technologist and expert business practitioners and because of this we have been successful using analytics and consulting to drive for business solutions.

If you have any further questions or comments, please feel free to contact me.

Regards,


Dr. Michael Beddo
Technology Director

MEB/lag

Enclosures

## Proposal to Develop a
## Case Management System
## based on SQL Database and Web Technologies,
## for the Third Judicial District Attorney's Office

### Data Ventures, LLC
### December 1, 2003

### Background

Data Ventures has built its reputation helping clients solve business problems requiring custom solutions. Data Ventures has experience in developing databases of all kinds (including SQL), writing applications that are web-centric, and using XML as a mechanism for sharing data between systems.

The Third Judicial District Attorney's Office in Las Cruces, New Mexico has a Case Management System that is problematic and does not share data with other district attorney offices easily. The Office has expressed a desire for a redesigned system to improve information exchange and the effectiveness of reporting.

To this end, Data Ventures proposes the development of a scalable Case Management System using modern database and web technologies which will facilitate information sharing between District Attorney offices statewide, and potentially other law enforcement entities, simply by using web browsers, such as Explorer or Netscape. The system will be designed so that users will experience:

- Significantly improved data input validation;
- Intuitive web pages for querying, maintaining, and otherwise interacting with the case management database;
- Provide for the sharing of information between offices and other law enforcement entities.

## Case Management Concept

Any case involves at least four kinds of data and it is important to understand what they are and how they are used so that the database can be designed appropriately and so that an intuitive web interface can be developed. The data can be divided into case-related, people-related, time-related, and special program-related pieces, with views into the database centered about each of these.

Case-related data describe aspects of the case such as case numbers, defendant numbers, court docket numbers, the case status, etc. People-related data describe the people involved with the case such as the defendant, prosecutor, defense attorney, the judges, victims, witnesses, etc. Time-related data items include when the case was opened, the arrest date, warrants, trial dates, etc. Finally, special programs-related data are used to schedule and track victim restitution, community service, etc relating to the case.

To support ad-hoc querying of the data, the different kinds of data should be analyzed to look for commonalities and whether certain concepts can be generalized. For example, there should be a consolidation of separate defendant, witness, victims, personnel, etc tables into a single "people" table. Then, with standardized entry of personal information, each person has a "role" (prosecutor, defense attorney, judge, defendant, victim, witness, etc). Some "identifier" fields in the person table, such as height and weight, will not be used for all people, for instance - judges.

It is important that a history of all updates be maintained and tracked during the lifetime of a case. This history could be used, for example, to analyze how cases evolve or for identifying inefficiencies in case loads. It is also important for the users to have powerful search capabilities for locating cases, defendants, victims, find cases whose time limits are about to run out, etc.

## Scope of Work

Data Ventures proposes a scalable Case Management System that facilitates information sharing between District Attorney (DA) offices statewide. The new system will provide all the essential functionality that the current system does now, but designed in such a manner to support "Integrated Justice" efforts. Data Ventures proposes using SQL Server for the database system, and web technologies such as the "Apache" web server, PHP for web page generation, and Javascript for data input validation.

Following is a list of areas that need attention or modification in the redesign effort:

● Data Ventures will work with the Administrative Office of the District Attorney, the Third Judicial District Attorney staff, and designees to advise in design, systems, networking and security configurations. Our current thinking is that the database be replicated throughout the state by 4 to 5 regional SQL Server databases. Each database "publishes" updates to its "subscribers" which could be the other regional databases. Using this scheme, each regional server will be in sync within a half-hour of input assuming the connection is maintained.

● Users will access the system through a Login screen using a web browser. After successful login the user is redirected to a user-specific home page (with a generic home page for anonymous users)

● For attorneys, victim advocates, and pre-prosecution officers, the home page should display all case events for that day, the rest of the week, and case loads (open cases) as of that day.

Displayed information for case events shall include defendant name, case number, the event's type, description, location, and starting time, the defense attorney, and assigned judge.

- For a new case, the user first locates the defendant information, and if the defendant is not in the database they have to add a new defendant information record. From the defendant information screen, a new case may be added with an auto-generated case number following a scheme to be worked out.

- Case information screen:
    - Display existing information, with following enhancements:
        - More flexibility for searching cases. Multiple cases that match search criteria should be shown as a list. Clicking on a case in the list brings up the targeted case.
        - There needs to be a new "warrant" table for tracking the date issued, active/inactive status, date served, and warrant type (arrest, bench, detainer, ...). Updating warrant records triggers the updating of case stage and status automatically.
        - There needs to be a history of trial dates and trial statuses (bumped, continued by State, continued by defense, mistrial, ...)
        - Auto computation of time limits for the case triggered off important dates for the case. The Third Judicial District Attorney's Office has provided Data Ventures with the rules to use for computing time limits.
    - Maintain a list of co-defendants for the case.
    - Maintain a list of victims of the defendant for the case.
    - Maintain a list of witnesses for the case.
    - Ability to view all events for a case. Time limits and extension dates should probably become part of the calendar events table, with links to this information left in the case table.
    - Support existing automatic document generation. Some reports need additional information from the database – Data Ventures will work with the Third Judicial District Attorney's Office and designees to complete this.

- Charges (for a case):
    - Duplicate existing, but move sentencing fields to a new and separate sentencing information screen. Utilize the "Common Charge Table" scheme that is currently under development by the Criminal Justice Information Management Team. Data Ventures will assist in the migration for the common charge table from Access into SQL database.

- Defendant information screen:
    - Show all information that is currently shown, with following additions.
    - Maintain a list (history) of addresses. Addresses will include home and work at minimum. Two current addresses will be displayed. Other addresses may include parents address, acquaintance address, and other ways of locating the defendant. This may imply a separate "address" table with a link back to the defendant table.
    - Additional "phone" information needed (mobile, pager, email ...)
    - Maintain a list (history) of aliases. An alias is just another defendant record, where the defendant record contains a field with a link pointing back to the original defendant information. When a defendant record is identified as an alias, there will be a mechanism for re-linking cases for that alias to the original defendant information.

- Must be able to show a list of aliases on the defendant information screen, the list shows defendant name, date of birth, and social security number.
- Need a "scars and tattoo" table that standardizes data. It might be possible to adopt a pre-existing scheme. Must be able to search pre-existing scars and tattoos field and notes, but going forward will use the standardized table instead.
- Need a "priors" table for cases not prosecuted in New Mexico. Information includes a "cause number" (court number), name of "offense," date of "offense", "conviction", "sentence" and "sentence completion", "district", "state", and "county" where convicted. There should be a check box to determine whether the prior is still good for enhancement purposes, a notes field and the name of the prosecutor. Note that these convictions, as well as cases prosecuted by New Mexico District Attorneys should be included in the "rap sheet."
- Link to parents of defendant (applicable to juvenile cases)
- Link to other co-defendants for which defendant was linked in any case.

- Calendar Information Screen:
  - Display information currently shown.
  - Case Time limits/Extension Date (note: if there is an extension date, this will appear on the home page, otherwise the case time limit will appear).
  - Drop down list for type of events (bench trial, jury trial, motions, etc.). Need to be able to administer the types of events. On home page, display event type, event description, event location.
  - Need start date and time (required), end date and time (optional)
  - Be able to generate subpoenas from an event information screen, and a way to identify which witness or victims for which subpoenas are required. The type of subpoena should be generated by the type of judge that will preside over the event (e.g. District, or Magistrate) or type of event (e.g. Grand Jury).
  - Standardized docket calendar sorted by judge and prosecutor.

- Programs:
  - Pre-prosecution diversion – "Date Applied", "Date Accepted", and "Term End" or "Completed Date" should be event triggers so therefore should show up as calendar events. Otherwise, no other known changes. Clone existing.
  - Worthless Checks – Clone the contracted worthless checks module.
  - Victim Assistance – The New Mexico Corrections Department will need a protocol for transferring prisoner release and parole information for notification of victims. Currently, this is not fully automated. Data Ventures will work with Corrections personnel to establish a data transfer protocol and arrange for this information to appear on the home pages of victim advocates so that victims can be notified timely.

- Reports:
  - Support the creation of ad hoc web page reports. Using the web-browser for "bookmarking" the queries makes the reports available for future use. The user should be able to pick a table, pick a field to display, pick a filter using SQL operators, and pick a sort order. There should be an option for exporting the report to DBF, Excel, or PDF formats, or the user could print directly from the web browser. The Third Judicial District Attorney's Office could identify standard queries which Data Ventures could store as SQL "stored procedures" for use state-wide.

## Terms of the Agreement

Upon approval of our proposal by the Third Judicial District Attorney's Office, Data Ventures will develop the Case Management System as described above on a contract services basis for a fee of $80,000. Significant departures from this proposal will be negotiated between the parties on a time and materials basis.

Data Ventures retains rights to the intellectual property developed and any subsequent work performed by Data Ventures in support of the Case Management System. Upon successful completion of the Case Management System, Data Ventures will have the right to offer the concept outside of New Mexico. However, the New Mexico District Attorney offices will also retain the right to develop the Case Management System within New Mexico.


## Who We Are

Name:                  Mike Beddo
Education:             BS in Physics (Mathematics) - New Mexico State University
                       MS in Physics - New Mexico State University
Work Experience:       3 years - Argonne National Laboratory - Physics Post Doctorate
                       1 year - Argonne National Laboratory - Assistant Physicist
                       2 years - New Mexico State University - Physics Post Doctorate
                       1 year - TXN, Inc. - Programmer/Analyst
                       **6 years - Data Ventures - Technology Director**

Mike is chief designer of the majority of compliance and surveillance systems in production at the New York Mercantile Exchange (NYMEX). These systems are used by the NYMEX to help detect non-compliant trading practices, conduct surveillance of customer positions, and assess portfolio risk.


Name:                  Tony Begg
Education:             BA in Natural Sciences/Physics Major - Cambridge University, England (Equivalent to MS in the US)
Work Experience:       2 years - Marconi Space Defense Systems Ltd - Software Engineer
                       2 years - Imperial College Infra Red Astronomy Group - Programmer
                       1 year - Anglo-Australian Telescope - Programmer
                       6 months - University College Hospital, Medical Physics Dept. - Systems Programmer
                       1 year - Zeus Hermes Ltd. - Contract Systems Programmer
                       3 years - S.R.C. Appleton Laboratory - Higher Scientific Officer
                       11 years - Brunel University - Faculty of Technology Computing Officer
                       6 months - Los Alamos National Laboratory - Research Collaborator
                       2.5 years - Prediction Company - Junior Founder and Principal Software Engineer
                       4 months - Fox River Financial Resources - Consultant
                       1.5 years - Monte Cristo Research and Trading - President, CEO, and CFO
                       3 years - TXN, Inc. - Senior Software Engineer
                       **6 years - Data Ventures - Lead Analyst**

Tony is a highly productive scientist with 30 years experience developing systems and applications software in scientific, engineering and financial fields. He has the ability to communicate well with both business clients and researchers. Tony has extensive knowledge and experience in both machine learning and Bayesian methods.

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| Name: | Ed Kern |
| Education: | BS in Electrical Engineering - Michigan Technological University |
| | BS in Mechanical Engineering - Michigan Technological University |
| | MS in Mechanical Engineering - Ohio State University |
| | ▓▓▓. in Aerospace Engineering - University of Michigan |
| Work Experience: | 11 years - U.S. Air Force - Captain |
| | 4 years - TRW Systems Group - Staff Member |
| | 21 years - Los Alamos National Laboratory - Staff Member |
| | 2 years - TXN, Inc. - Software Developer |
| | **6 years - Data Ventures – Sr. Systems Analyst (PC Applications Developer)** |

Ed has ▓▓▓▓▓▓▓▓ development experience ▓▓▓▓▓▓ the Visual Basic programming language and interface tools, the Microsoft Access and ▓▓▓▓▓▓▓ database management systems, and Crystal Reports and ▓▓▓▓▓▓▓▓▓l for reports generation. He is largely responsible for the CATMAN application. Currently, Ed is involved in a project to develop a web services platform for delivering OOS reports.

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| Name: | DeWayne Britton |
| Education: | ▓▓▓ Mathematics - Lubbock Christian University |
| Work Experience: | 1 year - Compu-Share - Programmer/Analyst |
| | 1 year - Electrospace Systems - Programmer/Analyst |
| | 2 years - MPSI - Sr. Software Engineer |
| | 1 year - Intel - Communications Consultant |
| | 3 years - TXN - Sr. Software Engineer |
| | 3 years - Vista Control Systems - Staff Member (Product Development) |
| | **3.5 years - Data Ventures - Sr. Systems Analyst** |

DeWayne is responsible for the "CM Solutions" category management tool, which is a scalable architecture that integrates algorithms and reports all aimed at solving the top 20+ business questions in category management. Other responsibilities include configuring, running, and analysis of Snapshot runs.

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| Name: | Hui Du |
| Education: | BE - Tsinghua University |
| | ▓▓▓ - Tsinghua University |
| Work Experience: | **5 years - Data Ventures - Sr. Systems Analyst** |

Hui consults with the New York Mercantile Exchange (NYMEX) on an on-going basis to develop reporting systems for compliance and surveillance operations at the NYMEX. Hui's first few months at Data Ventures were spent in a book on C programming. Within a year sh▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ NYMEX. She is very productive, produces high quality code, and has exceptional skills in the quality assurance arena.

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| Name: | Donn Hines |
| Education: | BS in Mathematics – Harding University |
| | MS in Mathematics – Montana State University |
| Work Experience: | 3 years - St. Mary's College – Mathematics Instructor |
| | 2 years – Los Alamos National Laboratory – Software Engineering/Development |
| | 8.5 years – Los Alamos National Laboratory – Software Engineer |
| | 1.5 years – Los Alamos National Laboratory – Java/Web Developer |
| | **4 years – Data Ventures – Sr. Systems Analyst /Production Team Leader** |

Donn maintains and manages our highly optimized proprietary POS database for Food Lion, containing 2 years worth of basket-level detail for 1400 stores. In addition, Donn works with clients to identify data specifications and extract the data we need for transforming the client data into our database format for analyses. Donn also performs system administration for our AIX, Linux, and Windows workstations/servers.

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| Name: | Frank Thompson II |
| Education: | BS in Business Management – North Carolina State University |
| Work Experience: | 8 years – Coca-Cola Consolidated – Trade Analyst |
| | 2 years – Coca-Cola Consolidated – Project Manager Information Systems |
| | **5 years – Data Ventures - Systems Manager** |

Frank designed and implemented the network Internet connections for our two Data Ventures offices. Frank handled the planning and negotiations required to address the complexities involved in connecting geographically distant offices (routers, firewalls, multiple ISPs, ...). Frank also implements Checkpoint Firewall/VPN solutions between Data Ventures and our clients for secure and reliable transport of their data. Frank's other duties include performing system administration for our AIX, Linux, and Windows workstations/servers.

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| Name: | Ann C. Gomez |
| Education: | College of Santa Fe, Continuing Education. |
| | Various courses over the years:  Accounting, Bookkeeping, Supervisory and Management, Personnel Law, Office Management, Microsoft Office, Microsoft Excel. |
| Work Experience: | 4 years – New Mexico Department of Development - Student Intern & Clerk 1 |
| | 3 years – New Mexico Transportation Department - Account Technician |
| | 3 years – Ann Gomez School of Dance - Proprietor |
| | 2 years – Pojoaque Valley Schools - Substitute Teacher |
| | 4 years – New Mexico Office of Cultural Affairs - Financial Management Contractor |
| | 1 year – New Mexico Office of Cultural Affairs - Financial Specialist III |
| | 5 years – New Mexico Office of Indian Affairs - Administrator III |
| | **3 years – Data Ventures - Office Manager/Production Team Member** |

As the Office Manager, Ann is responsible for the day-to-day operations of the office, which includes being the Lead Human Resources Representative, handling procurement issues and all the other administrative aspects of the job. Ann has 17 years of experience in State Government. She is a member of the Production Team and as such is responsible for producing the standard Food Lion reports and archiving the raw Food Lion Transaction data on a weekly basis.

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| Name: | Lisa Gonzales |
| Education: | Heald Business College in Business Administration |
| | Formal training: Microsoft Word, Excel, Access, and PowerPoint. |
| | Classes in Labor Law, Personnel Law, and Office Management |
| Work Experience: | 2 years - Grand Street Litho – Gallo Winery |
| | 1 year - Stephen Gould Corporation |
| | 2 years - SyberVision Systems, Inc |
| | 4 years - AMP Printing |
| | **4 years - Data Ventures – Office Administrator/Production Team Member** |

In addition to Lisa's office administrator duties, she is responsible for the design and layout of the company's monthly newsletter and is a member of the Food Lion production team. As such, she is responsible for producing the standard Food Lion reports and archiving the raw Food Lion transaction data on a weekly basis.