Provincial 911 Printer Data Capture Utility

OVERVIEW

The Provincial 911 Printer Data Capture Utility, PDC, provides a computer based, cost effective alternative to log and/or real time printers typically installed to support both primary and secondary 911 Public Safety Answering Points. In addition to replacing high maintenance printer installations PDC facilitates display of current and recent log and/or real time activities on a standard computer monitor and automatically updates a data base of all 911 activities. Using standard Microsoft Access query techniques, the PDC utility positions 911 Service Providers, and if permitted, PSAP management to easily obtain statistical information and prepare custom reports for 911 activities as appropriate. 911 call takers may also gain quick access to current or past call information from any networked PC. The primary PDC benefits to any PSAP installation include:

- Improved and efficient access to 911 real time and log data. Data is stored electronically in a data base rather than a “one time print hard copy”.
- Improved reliability and reduced maintenance costs. PSAP staff will no longer have to verify printer operation including loading paper and replacing print cartridges on what are typically noisy dot matrix printers.

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TYPICAL PSAP PRINTER ARRANGEMENTS

TELUS ANI/ALI distribution network, as implemented in British Columbia and Alberta, provides for two types of hardcopy feeds of 911 call information. Typically, a primary call answer centre is equipped with two LOG printers and one Real-time printer, and a downstream secondary answering agency is equipped with only a Real-time printer. Usually, the second LOG printer at a primary call answer centre is fed into a data capture program running on a PC that stores the data for statistical and archival purposes. Although both printer streams have some common information, the overall purpose of each is entirely different. The most current version of TELUS Network Interface Document TID-08 provides complete details of all printer fields and is readily available at: http://about.telus.com/publicpolicy/interface_documents.html

A summary of the two types of printer streams are as follows:

Real-time printer – The Real-time printer is driven with 911 caller information immediately after a call is answered. The information displayed includes:

- The caller's telephone number
- Emergency Services Routing Digits if the caller has enhanced cellular service
- The caller's name, address, municipality, and postal code
- class of service, whether residential, business, coin, or cellular
- Emergency Services Zone
- The emergency response agency names and phone numbers associated with the ESZ
- The PSAP name of the answering agency
- The answering position
- The date and time the call was answered
- The Local Service Provider's name and number
- Any Service Provider Service Address Comments associated with the caller's address

LOG printer – The LOG printer is driven once the 911 call is disconnected. The information presented consists of the callers' ANI, name and address, class of service, and Emergency Services Zone, but omits the agency names, the LSP, and the Service Address Comments. In addition to this information, the call statistics as calculated by the TELUS 911 switch is appended to the stream. This information includes the ANI, the Public Safety Answering Point (PSAP) name of the agency the call was presented to, the offer time of the call, the answer time (if answered), the time the call was disconnected, plus, if the call was transferred to a downstream agency, some information regarding the transferred-to agency, such as when the call was offered to the agency, when the agency answered the call, and the agencies PSAP name.

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BENEFITS WHEN PSAP PRINTERS ARE REPLACED WITH PDC

The 911 PDC Utility specifically designed for British Columbia and Alberta, cost effectively addresses PSAP operation issues associated with hardcopy log and real time printers. PDC allows for the elimination of hardcopy printers entirely by routing both the Real-time and LOG printer streams to the serial ports on a standard Windows PC. The PDC Utility can be installed on any standard PC running Windows 98, Windows 2000, or Windows XP provided the Microsoft .NET Framework is installed (Windows 2000 or XP is required for the utility to operate as a Windows Service). Since the utility uses few resources and is unobtrusive, it may be installed on a workstation used for other purposes if the serial ports are free for the utility. Even a spare decommissioned PC may be used. Ideally, the utility should be installed on a Windows 2000, or Windows 2003 server that is never rebooted. The PDC utility will capture all printer output, separate the data fields into individual components, and display them on screen. In addition, it will store the captured data into a database of your choice, allowing you to save the information for archival and statistical purposes. The PDC utility includes the following benefits:

- **No noise, paper jams, or paper out**
  By removing hardcopy dot matrix printers from the work area, the noise level is reduced. The utility does not have to be constantly monitored for paper jams or paper out condition.
- **Real-time display of printer output**
  The PDC utility provides onscreen real-time display of both printer outputs. There are two displays for each attached printer: one display shows the raw output as read from the serial port and the other shows the individual data fields as they would be stored in a database. Convenient buttons allow you to scroll through the printer data up to a user defined maximum number of history records.
- **Easy to install, configure, and monitor**
  The PDC Utility is distributed with an empty Microsoft Access database table to store the captured data from both types of printers, scripts to create the necessary tables in SQL Server 2000 or MySQL, and a Microsoft Access reporting application that allows you to search the database for 911 call information. The File->Options menu selection allows you to choose which serial ports the printers are attached to and which database(s) to store the captured data in. Other menu options allow you to start the utility every time Windows starts, to start the program automatically minimized, to choose whether or not to display only an icon in the Windows system tray area when minimized, and to run the application as a Windows Service (Windows 2000/XP only). Daily log files are created containing error and troubleshooting messages, plus an audit of the data that is being captured and stored.

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- **The captured data can be stored in any ODBC database**
  The utility has the ability to store the printer data in two databases simultaneously. The first database is a standard Microsoft Access database; the second is any Open Database Connectivity (ODBC) compliant database such as MySQL, Oracle, or SQL Server 2000. And if the PC the capture utility is installed on has network connectivity, the databases do not have to be on the same PC. They can be stored on any machine that the capture PC has network access to.
- **The captured data can be accessed from any PC**
  If the PC that the data is stored on has network connectivity, the data may be accessed from any other authorized PC on the network. Thus any answer location with a PC has instant access.
- **A Searching and Reporting module is supplied**
  The Searching and Reporting module is a menu driven interface written in Microsoft Access that may be used "as is", or customized to suit the site's requirements. One sample report is supplied and one custom report will be written upon request, at no extra charge. The Searching module is extremely useful, allowing you to search for either LOG printer data, or Real-time printer data by a number of criteria such as whether the call was answered or not, whether it was transferred or not, the date and time of the call, the 911 caller's name, address, ANI, Emergency Services Zone, etc. And the Real-time printer search has a quick display button that will show the 10 most recent 911 calls. Any of the found data may be formatted and printed on a local printer with one click.
- **You can write your own reports or data access programs**
  The database structure of the stored data is freely published, and you may use whatever package you like to report on the data, such as Crystal Reports, or Microsoft Access. Or you may contract with Colin Sewell, to create specific custom reports.
- **Ongoing support is free, interface change updates are inexpensive**
  Any problems found with the PDC Utility will be repaired with no charge. Future functionality updates will also be provided free. If TELUS changes the format of either or both of the LOG printer and Real-time printer outputs and it is found to be incompatible with the utility, an update will be provided to fix the problem in a timely fashion and at a reasonable charge.

DISTRIBUTION

The Provincial 911 Printer Data Capture Utility was created by Colin Sewell. Colin has over 20 years experience in programming, database design and administration including a 6 year tenure designing, implementing, and supporting the TELUS Enhanced Provincial 911 ANI/ALI distribution software currently used in both British Columbia and Alberta.

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