

# ***X*CVIEW V3.0**

## ***EX*tensible Commercial Vehicle Information Exchange Window**

# Installation and User Manual

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# 1 Introduction

This document is the installation and user manual for the Washington State Department of Transportation XCVIEW V3.0 system.

XCVIEW is an extensible version of Commercial Vehicle Information Exchange Window (CVIEW). CVIEW was initially implemented by John Hopkins University/Applied Physics Lab (JHU/APL). It is primarily a repository and store and forward system used to share commercial vehicle data, carrier credentials and safety information. XCVIEW is designed to share commercial vehicle and carrier data with other states and with the FMCSA SAFER system (version 7.3 and later).

XCVIEW was designed and implemented by Washington State Department of Transportation.

This document provides an overview of the XCVIEW architecture and discusses installation and operation of the CVIEW database and the XCVIEW Batch processes.

## 2 Licensing and Support of XCVIEW

**Software Licnese:** XCVIEW is considered public domain software. The install files and the installation and user manual can be downloaded from the WSDOT “CVISN Documentation” web page. To do this, use your Internet browser to go to <http://cvisn.wsdot.wa.gov>. Then click the "Resources" link on the left side of the page and then click "CVISN Documentation" in the list of Related Links. This page will display links that will allow you to download the install files and the installation and user manual.

**WSDOT XCVIEW Support Services:** WSDOT XCVIEW support is provided by the WSDOT CVISN technical team. WSDOT XCVIEW support services include telephone and email support, help with resolving SAFER technical issues, and access to WSDOT’s regional CVIEW.

WSDOT hosts a regional CVIEW that a state using XCVIEW can connect to as an alternative to connecting to SAFER. This allows the state to 1) better monitor their uploaded and downloaded data, 2) perform e-screening and transponder administration functions, and 3) minimize the time they need to spend dealing with SAFER technical issues.

WSDOT’s XCVIEW support services are available at the cost of \$15,000 per year. This charge is designed to help to offset the cost of operation of WSDOT’s regional CVIEW and the cost of on-going support and enhancements required for XCVIEW (due changes mandated by FMCSA and the CVISN ACCB).

Use of XCVIEW support services requires that the subscribing state have a moderate level of technical expertise the following areas:

- Installation and administration of Microsoft Windows Server 2003 and SQL Server 2005
- Administration of SQL Server 2005 databases and stored procedures
- Ability to maintain and schedule DOS BAT files
- XML, W3C schemas and the SAFER 7.3 Interface Control Document (ICD)
- Legacy System Interface (LSI) systems that feed XML data into XCVIEW.

If you plan to modify XCVIEW to meet your own needs, you may also need experience with Microsoft .Net Visual Basic.

WSDOT CVISN support staff will provide email and telephone support to help you trouble shoot technical problems that you encounter with XCVIEW. Because we do not have direct access to your XCVIEW and related CVISN systems, this support will be provided primarily in an advisory capacity. Any errors or problems that are encountered in XCVIEW that can be recreated by the WSDOT CVISN support staff will of course be diagnosed and corrected.

### **3 XCVIEW System Requirements**

The XCVIEW Batch Update Process must be installed on a Windows 2003 computer that can be primarily dedicated for XCVIEW processing. XCVIEW requires Microsoft SQL Server 2005 and the Microsoft .Net 2.0 Framework to be installed. Note that for greatest efficiency it is recommended that the XCVIEW batch update process be installed and run on the same computer where your local CVIEW database resides.

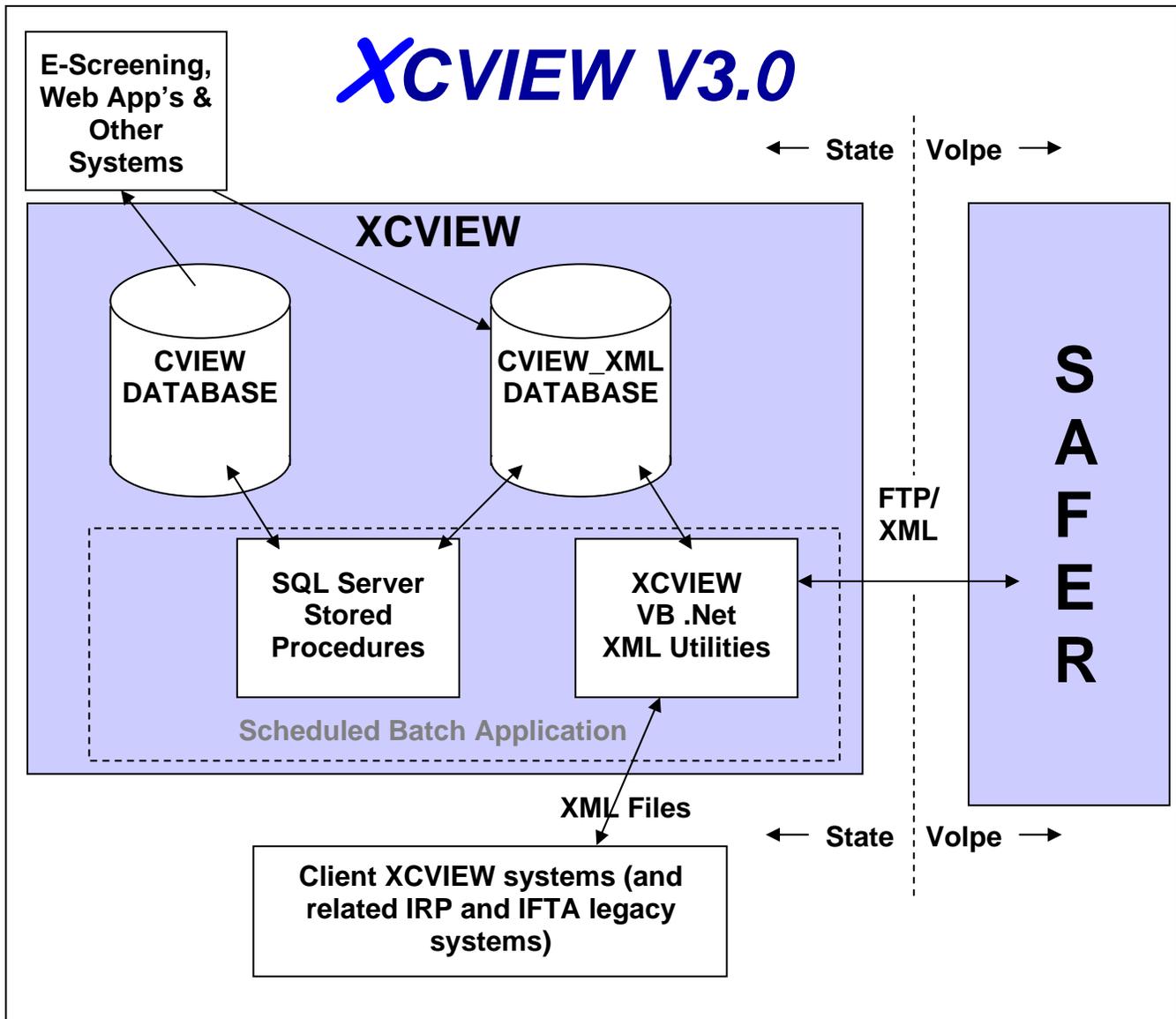
The minimum recommended server hardware for XCVIEW is: one 3 GHz processor, 2 GB of memory and 100 GB of available hard disk storage. If you have extra funding, spend it on memory first and then additional processors. An additional 2GB of memory is recommended.

## 4 XCVIEW Overview and Architecture

This section provides an overview of the WSDOT XCVIEW system and the technology used for its implementation.

The WSDOT XCVIEW system is designed to: 1) apply carrier and vehicle updates from the FMCSA SAFER system, from local CVISN systems and from client CVIEW systems (in other states) to a local CVIEW database, 2) transmit IFTA, IRP, vehicle registration and transponder updates to the FMCSA SAFER system, and 3) replicate processed vehicle and carrier updates to satellite CVIEW databases in jurisdictions that have installed the XCVIEW system or a XML compatible CVIEW (i.e., compatible with SAFER 7.3 or later).

Following is a diagram that summarizes the processing performed by XCVIEW.



## 4.1 XCVIEW Data Flow

### Incoming Data:

The WSDOT XCVIEW system accepts carrier and vehicle updates from a variety of sources including:

- IFTA, IRP, vehicle registration, vehicle inspection, transponder and carrier safety/credential XML transactions from the SAFER system at Volpe Center. Transactions supported are the T0025, T0026, T0027, T0028, T0029, T0030, T0031 and T0032 XML transactions documented in the FMCSA SAFER Interface Control Document (SAFER ICD).
- IFTA, IRP, vehicle registration and transponder updates from states using XCVIEW. Transactions supported are the T0019, T0020, T0021, T0022, and T0024 XML transactions documented in the SAFER ICD.
- WSDOT's legacy IRP, IFTA and Transponder Administration systems.
- WSDOT's Commercial Vehicle E-screening Administration (CVESA) system – vehicle registration and transponder data for vehicles based in states that have not implemented XCVIEW (this does not include Help Inc. transponders).

### Data Output:

The WSDOT XCVIEW system uses XML transactions to transmit carrier and vehicle data. These XML documents are compressed and transmitted to XCVIEW subscribers via the Internet using WSDOT's ftp server. The T0025 through T0032 XML transactions documented in the SAFER ICD are used to transmit this data.

XCVIEW also uploads IFTA, IRP, vehicle registration and transponder data XML transactions to the SAFER system at Volpe Center. These transactions are generated for all updates received XCVIEW legacy systems (including the WSDOT legacy systems and legacy system data from jurisdictions that are XCVIEW clients). The T0019 through T0024 XML transactions documented in the SAFER ICD are used to transmit this data.

## 4.2 XCVIEW Extensibility

XCVIEW allows a jurisdiction to have a very flexible vision for their CVIEW processing and database. Following are some examples of this:

- **“Xnnnn” Transactions** - In addition to the XML transactions defined by FMCSA (in SAFER 4.2), XCVIEW is designed to support additional “Xnnnn” transactions that can be used to load and generate other CVISN data as XML transactions. It typically takes 1 to 3 weeks of programming effort to add a new XML transaction. Following are the steps required to do this:
  1. Create tables in the CVIEW\_XML database that represent the new XML transaction.
  2. Add a W3C compatible version of the schema to the XCVIEW\SAFER\_Schema directory. Modify this schema to support Microsoft XML table mapping annotation and place the modified version of the schema in XCVIEW\WA\_Schema.
  3. Create spImportXnnnn and spExportXnnnn stored procedures in the CVIEW\_XML database to import and export the XML data into and out of the CVIEW database.
  4. Modify XCVIEW.BAT to process the new transaction.

Before designing a new XML transaction, it is recommended that you review the XCVIEW\_XML tables, stored procedures and XCVIEW.BAT logic for an existing XML transaction (for example, T0019).

- **CVIEW Database Flexibility** - The XCVIEW XML utilities use an intermediate database to load and generate XML. This allows a CVIEW database structure to be unique from one jurisdiction to the next. This also means changes to XML, CVISN applications, or the CVIEW database will be more localized and have less impact on each other when changes are made.
- **Any state can become a “customized” regional CVIEW collection point** - XCVIEW can be used as a store and forward system for both intrastate and interstate data. Examples of this include:
  - **SSRS,**
  - **UCR,**
  - **Foreign CVISN data (Canada and Mexico),**
  - **Homeland Security,**
  - **Data fields not yet supported by SAFER.**
- **Groups of states can accommodate unique regional requirements for some data and, at the same time, be SAFER subscribers for nationally shared vehicle and carrier data.** WSDOT plans to use this capability to share information with Canada and other northwest region states.

### 4.3 XCVIEW Architecture

The XCVIEW system at WSDOT runs on a Windows 2003 Server with 8 – 3 GHz processors, 4GB of memory and 300 GB of RAID 5 hard disk. This system is dedicated for update processing and data replication 24 hours a day, 7 days a week (maintenance downtime is scheduled on weekends as needed).

XCVIEW is a batch update process. It is implemented using Windows 2003, .BAT files, Microsoft SQL Server 2005 (databases and stored procedures), Microsoft Visual Studio .Net 2.0 VB console applications, PKZIP 8.1 Command Line, and other Windows DOS utilities and commands.

The XCVIEW batch process can be scheduled using the Windows Scheduled Tasks function. WSDOT uses Camellia Software's Batch Job Server product to schedule XCVIEW processing.

There are 7 BAT files that are used to run the XCVIEW batch update process. These are:

<b>XCVIEW.BAT</b>	<b>UPLOAD_IN.BAT</b>	<b>UPLOAD_OUT.BAT</b>
<b>DOWNLOAD_IN.BAT</b>	<b>DOWNLOAD_OUT.BAT</b>	<b>PurgeCVIEW_XML.BAT</b>
<b>SAFER_BL_UD_DOWNLOAD.BAT</b>		

Following is a description of each of these BAT files:

1. **XCVIEW.BAT** – This is the main BAT file for the XCVIEW batch update process. This BAT file executes the other XCVIEW BAT files (in the order shown below) and archives log information for the XCVIEW batch process.
2. **DOWNLOAD\_IN.BAT** – This BAT file imports the SAFER XML transaction files that are downloaded from the SAFER ftp server at Volpe Center and updates the local CVIEW database. This BAT file is called once for each downloaded T00nn transaction. The SAFER XML files are downloaded from the SAFER ftp server by the SAFER\_BL\_UD\_DOWNLOAD.BAT batch file (see below).
3. **UPLOAD\_IN.BAT** – This BAT file retrieves the XML input transaction files uploaded by XCVIEW client legacy systems and updates the local CVIEW database. This BAT file is only called once and processes all CVIEWjnnnnnnnnnn.XML files that have been transmitted to WSDOT's CVISN ftp server.
4. **UPLOAD\_OUT.BAT** – This BAT file generates SAFER XML input transaction files for all IRP, vehicle registration, IFTA, and transponder updates that have occurred in 3. above and that are applied to the CVIEW database by WSDOT legacy systems. These XML files are then uploaded to the SAFER ftp server at Volpe Center. This BAT file is called once for each uploaded T00nn transaction.
5. **DOWNLOAD\_OUT.BAT** – **This BAT file is normally not used by XCVIEW clients.** This BAT file generates the XML output transaction files that are downloaded to XCVIEW clients. This includes updates that have occurred in 2. and 3. above. This BAT file is called once for each downloaded T00nn transaction.

6. **PurgeCVIEW\_XML.BAT** – This BAT file is used to purge obsolete data stored in the XCVIEW\_XML and XCVIEW\_XML\_TRACK databases.
7. **SAFER\_BL\_UD\_DOWNLOAD.BAT** – This BAT file downloads all UD (daily update) and any new BL (baseline) XML transaction files from the SAFER ftp server (or in the case of XCVIEW clients, from the WSDOT ftp server). These XML files are then processed in XCVIEW.BAT by DOWNLOAD\_IN.BAT. This includes XML files for the T0025, T0026, T0027, T0028, T0029, T0030, T0031, and T0032 transactions.

The remainder of this section further describes the processing performed by these BAT files.

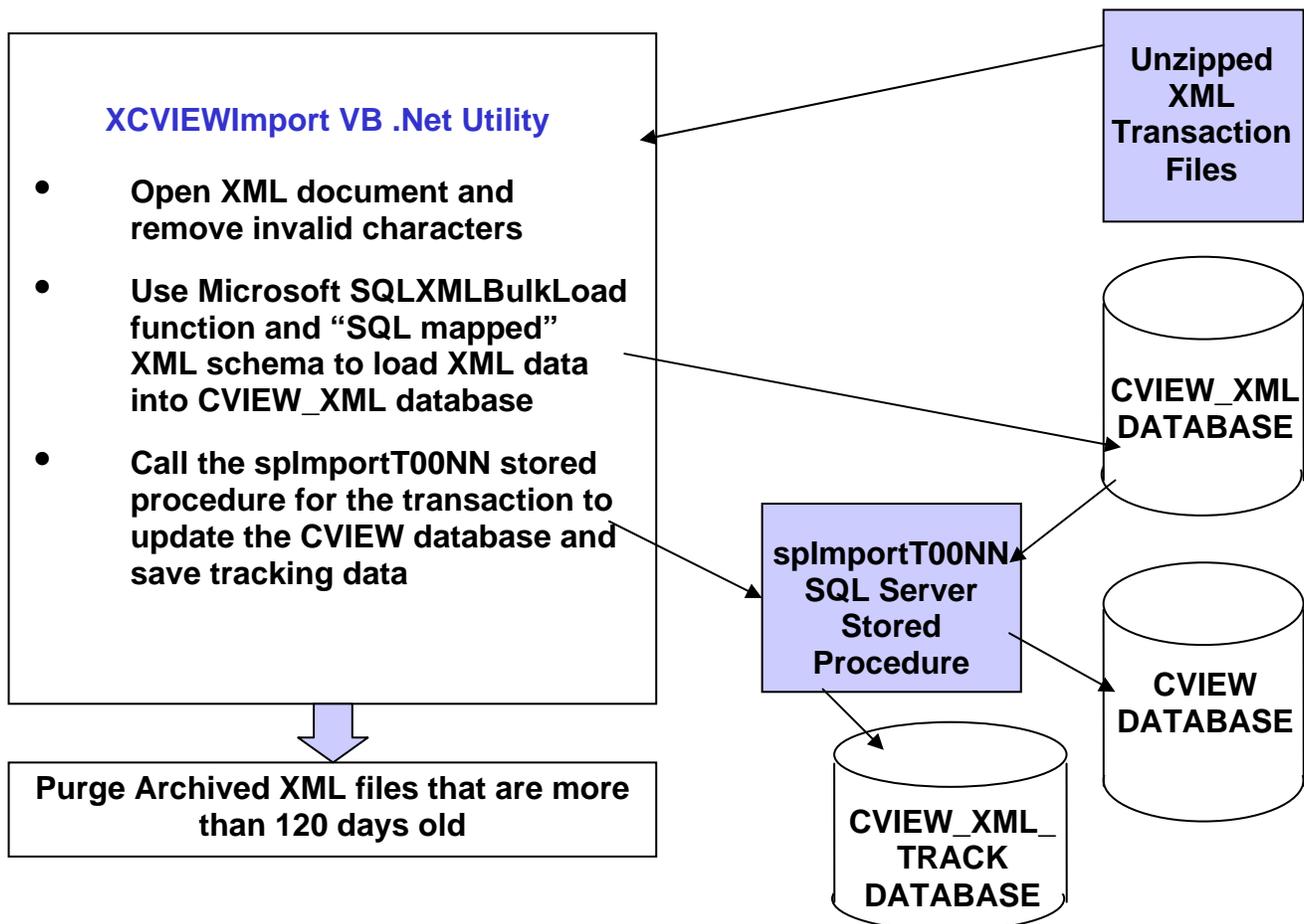
#### 4.4 DOWNLOAD\_IN.BAT

This BAT file imports the SAFER XML transaction files downloaded and unzipped by SAFER\_BL\_UD\_DOWNLOAD.BAT and updates the local CVIEW database. The transactions processed are:

- T0025 – IFTA data
- T0026 – IRP Account data
- T0027 – IRP Fleet data
- T0028 – IRP Vehicle Registration data
- T0029 – Vehicle Transponder data
- T0030 – Vehicle Inspection data
- T0031 – Carrier MCMIS/Safety data
- T0032 – Carrier Liability and Insurance data

This BAT file is called once for each of the above transactions. The following diagram shows the processing flow for DOWNLOAD\_IN.BAT:

### DOWNLOAD\_IN.BAT batch process



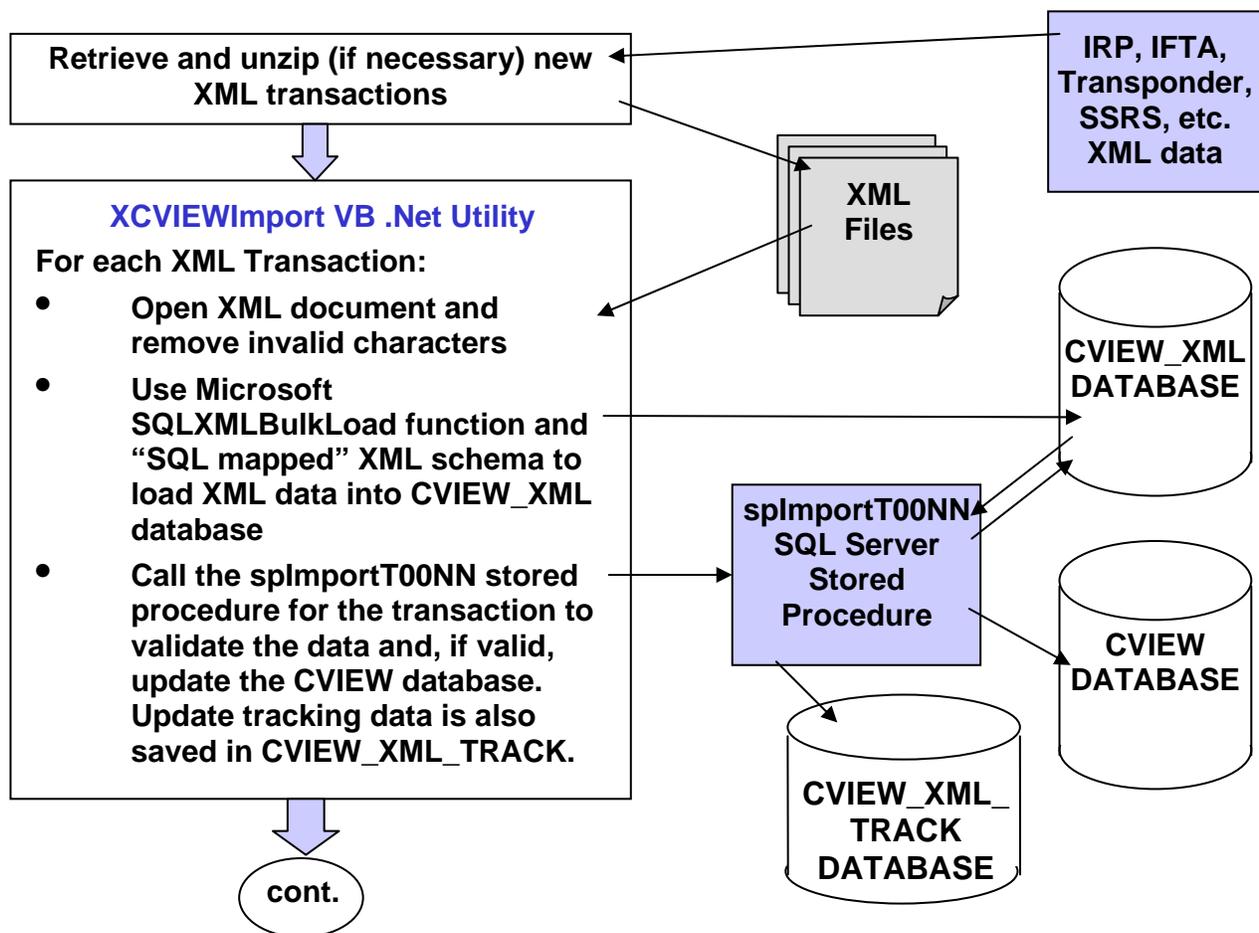
## 4.5 UPLOAD\_IN.BAT

This BAT file retrieves the XML input transaction files uploaded by XCVIEW client legacy systems and updates the local CVIEW database. The transactions processed are:

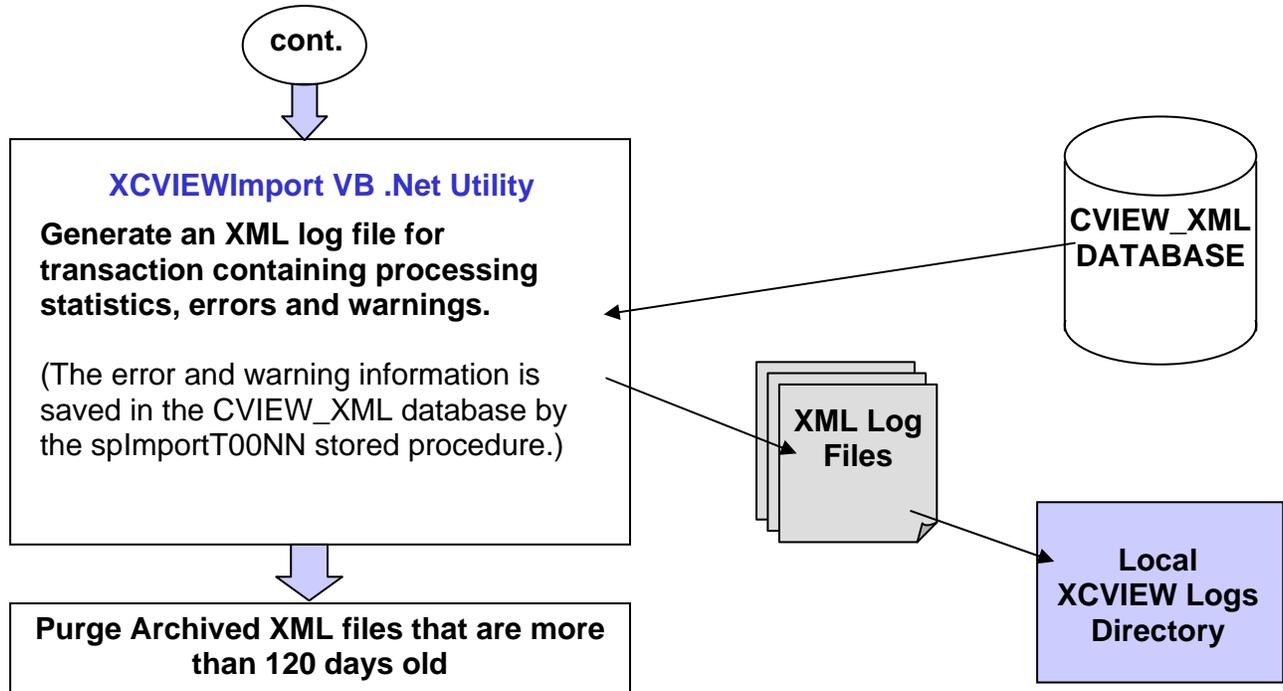
- T0019 – IFTA data
- T0020 – IRP Account data
- T0021 – IRP Fleet data
- T0022 – IRP Vehicle Registration data
- T0024 – Vehicle Transponder data

The following diagram shows the processing flow for UPLOAD\_IN.BAT:

### UPLOAD\_IN.BAT batch process



## UPLOAD\_IN.BAT batch process (cont.)



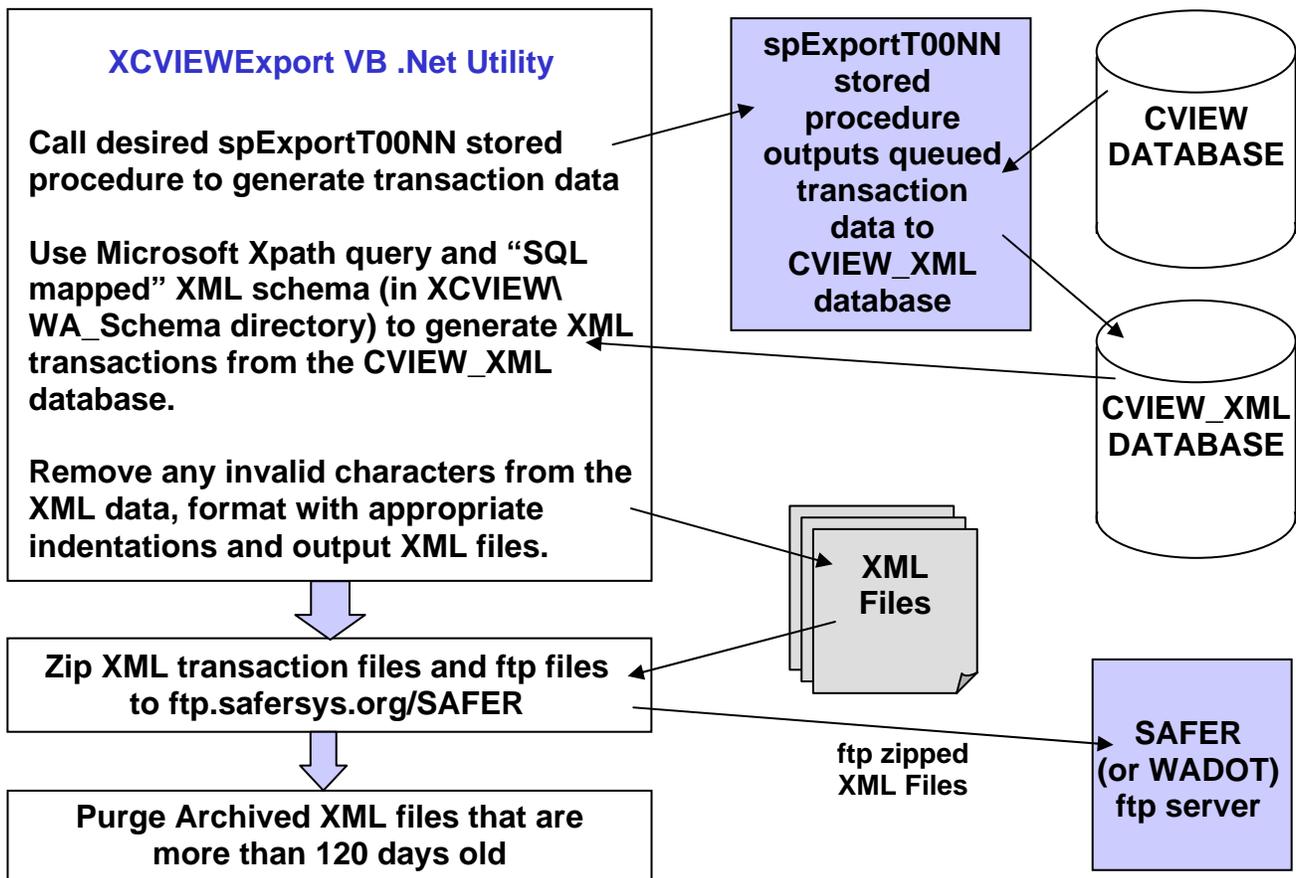
## 4.6 UPLOAD\_OUT.BAT

This BAT file generates SAFER XML input transaction files for all IRP, vehicle registration, IFTA, and transponder updates that have been processed by UPLOAD\_IN and other WSDOT CVIEW update processes. These XML files are then uploaded to the SAFER ftp server at Volpe Center. The transactions processed are:

- T0019 – IFTA data
- T0020 – IRP Account data
- T0021 – IRP Fleet data
- T0022 – IRP Vehicle Registration data
- T0024 – Vehicle Transponder data

This BAT file is called once for each of the above transactions. The following diagram shows the processing flow for UPLOAD\_OUT.BAT:

### UPLOAD\_OUT.BAT batch process



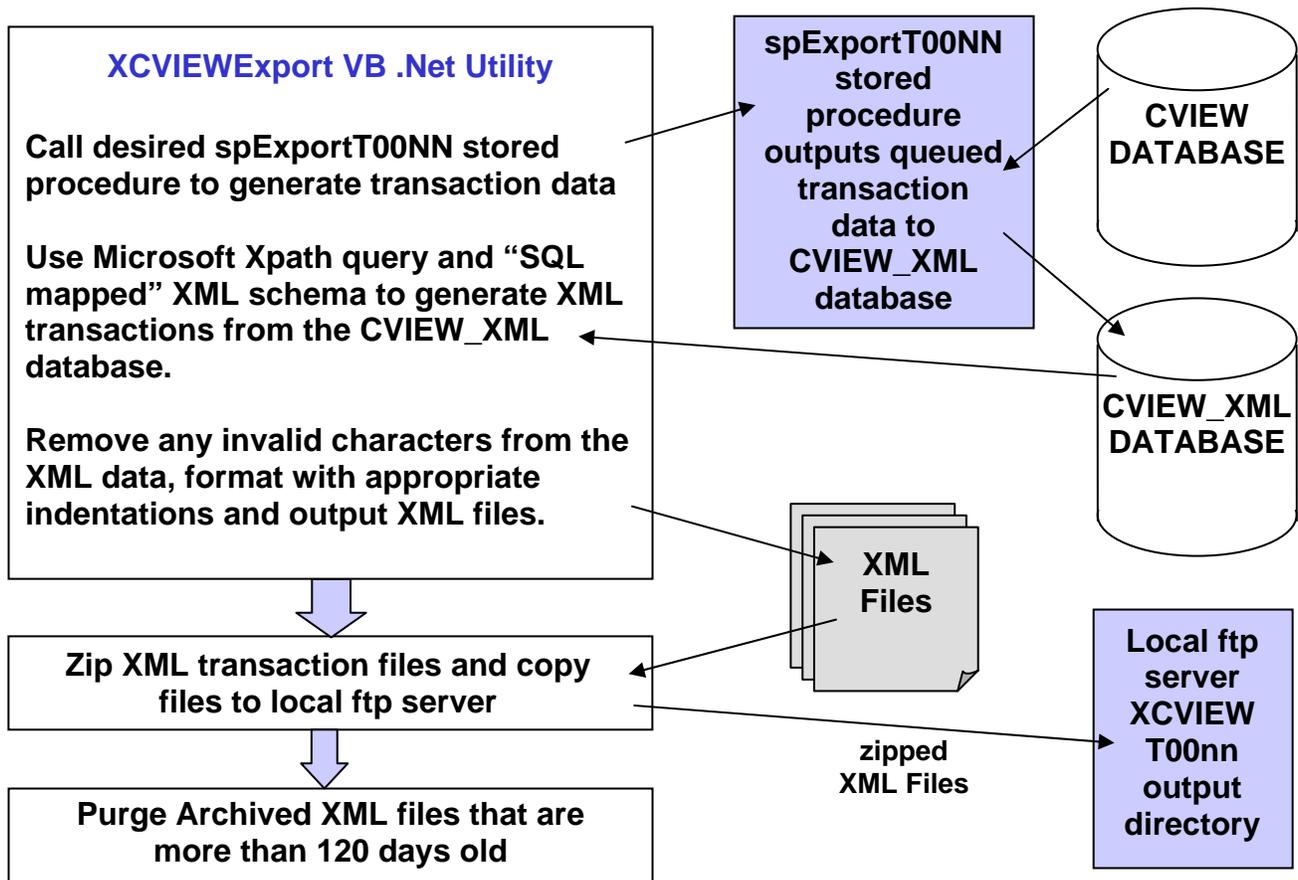
## 4.7 DOWNLOAD\_OUT.BAT

**This BAT file is normally not used by XCVIEW clients.** This BAT file generates the XML output transaction files that are downloaded to XCVIEW clients. This includes updates that have occurred in in the DOWNLOAD\_IN and UPLOAD\_IN processes above. The transactions processed are:

- T0025 – IFTA data
- T0026 – IRP Account data
- T0027 – IRP Fleet data
- T0028 – IRP Vehicle Registration data
- T0029 – Vehicle Transponder data
- T0030 – Vehicle Inspection data
- T0031 – Carrier MCMIS/Safety data
- T0032 – Carrier Liability and Insurance data

This BAT file is called once for each of the above transactions. The following diagram shows the processing flow for DOWNLOAD\_OUT.BAT:

### DOWNLOAD\_OUT.BAT batch process



#### **4.8 SAFER\_BL\_UD\_DOWNLOAD.BAT**

This BAT file executes the XCVIEWDownload.exe utility to download new UD (daily update) and BL (baseline) XML files from the SAFER ftp server (or the WSDOT CVISN ftp server for XCVIEW client states). The downloaded files are unzipped and placed in the XCVIEW\DOWNLOAD\_IN\SAFER directory for later processing by DOWNLOAD\_IN.BAT (called by XCVIEW.BAT). This batch process is designed to run at the same time that XCVIEW.BAT is running. This greatly improves the performance and throughput of XCVIEW.BAT.

## 5 XCVIEW 3.0 Changes - Enhancements since XCVIEW 2.0

Following is a summary of the major changes to XCVIEW with the V3.0 release.

### 1. Microsoft SQL Server 2005

The most significant improvement with XCVIEW 3.0 was the conversion to Microsoft SQL Server 2005 and VB .Net 2.0. SQL Server 2005 dramatically improved the throughput processing of XCVIEW's XML import and export processes. Import processing speeds were reduced by 60% to 80%. This results in updates being applied to your CVIEW database within hours or minutes rather than days.

Because of this performance improvement, the regional XCVIEW in Washington now checks for updates every 15 minutes from SAFER and from the XCVIEW client states. When updates are found, they are applied immediately and sent on to the client XCVIEW systems (or up to SAFER if the updates are coming from a client XCVIEW).

Because of the performance improvements of SQL 2005 and the enhanced download processing in XCVIEW 3.0 (see below), XCVIEW 3.0 will normally apply updates to your local CVIEW within one hour of the time when the updates were posted on the SAFER ftp server.

### 2. Greatly Improved Download and Unzip Processing

The SAFER\_BL\_UD\_DOWNLOAD.BAT batch process and XCVIEWDownload.exe utility have been added to XCVIEW to more fully automate XML file download and unzip processing. This was a major performance problem with XCVIEW 2.0.

The SAFER\_BL\_UD\_DOWNLOAD.BAT batch process completely automates download processing and removes the burden of this task from XCVIEW.BAT. This batch process downloads both UD (daily update) and BL (baseline) XML files from the SAFER ftp server (or the WSDOT CVISN ftp server for XCVIEW client states) and makes them available for processing by XCVIEW.BAT.

SAFER\_BL\_UD\_DOWNLOAD.BAT is designed to run while XCVIEW.BAT is running. So XML files are typically available for processing by XCVIEW.BAT as soon as they are made available by the remote ftp server. This greatly improves the timeliness of CVIEW updates and the processing throughput of XCVIEW.BAT.

### 3. Automatic Baseline File Processing

Baseline files are downloaded automatically whenever they are created on the host ftp server and previously downloaded baseline data is deleted. Once downloaded and unzipped, the new baseline files are automatically imported by XCVIEW.BAT. The logic in XCVIEW.BAT is designed to only process baseline files when there is no backlog of daily update, UD.XML, files. So baseline data is typically loaded the same day it is made available on the remote ftp server.

#### 4. Update Tracking

A CVIEW\_XML\_TRACK database has been added to XCVIEW to allow tracking of all CVIEW updates processed by DOWNLOAD\_IN.BAT and UPLOAD\_IN.BAT. The import stored procedures automatically save tracking data for all incoming updates (even updates that are in error and not applied to the CVIEW database). This database provides much greater visibility of what data has been processed by XCVIEW and, when data is rejected, why it was not processed.

#### 5. SAFER 7.3 Compatibility

The 7.3 version of SAFER included a larger than normal number of enhancements. This required corresponding changes in XCVIEW. The major enhancements implemented with SAFER 7.3 included:

- **Multiple registrations per VIN** – It is now possible to have more than one plate in your CVIEW for a specific VIN. This was a decision that was agreed to by all CVISN states to allow more than one registration to be valid at the same time. This change also makes it possible to maintain a history of vehicle registrations for a given VIN. The VEHICLE\_HISTORY table that was part of XCVIEW 2.0 is now no longer required and has been deleted.
- **T0022V3 and T0028V3 XML transactions** – There are now new XML transactions for vehicle registration data, the T0022V3 for uploading data and the T0028V3 for downloading data. New data elements have been added to indicate the source of the registration data. So it is now possible to receive vehicle registration data from a source other than the authoritative source. The T0028V3 also includes a new data element for the PRISM TH\_INDICATOR (target history indicator). Please refer to the latest SAFER ICD for more information on these transactions.
- **T0024V2 and T0029V2 XML transactions** – There are now new XML transactions for transponder data, the T0024V2 for uploading data and the T0029V2 for downloading data. New data elements have been added to allow an uploading state to indicate the source of the transponder change and also to specify “opt-out” jurisdictions where the transponder will not be used for electronic screening. Please refer to the latest SAFER ICD for more information on these transactions.

## 6 XCVIEW 3.0 Installation Instructions

Following are instructions to install the XCVIEW.BAT batch update process and the CVIEW database.

### 1. Create the XCVIEW Installation Directory

Create a directory named XCVIEW on the root directory of a data partition of the Windows 2003 system designated as your XCVIEW server (where you have installed SQL Server 2005). You should allow a total of at least 100 GB of free space on the partition where the XCVIEW directory and XCVIEW databases are created. It is strongly recommended that this partition be a different partition than the system (C:) drive.

For the sake of these instructions it is assumed that the drive letter used is "D:". If you are using a different drive letter, substitute the drive letter you have used wherever "D:" appears in the following instructions.

### 2. Create the XCVIEW\setup Directory

Create a D:\XCVIEW directory (if you don't already have one).

Then create a D:\XCVIEW\Setup directory.

### 3. Download installation files

You will need the following files to complete the installation of XCVIEW. These files can be downloaded from our CVISN Documentation web page at <http://cvisn.wsdot.wa.gov> (click the "Resources" link on the left side of the page and then click "CVISN Documentation" in the list of Related Links. The next page provides a download link for each of the following files.

**dotnetfx.exe** - Microsoft .Net Framework 2.0 redistributable files.

**XCVIEW\_30\_Setup.zip** – This file contains the install files for XCVIEW 3.0.

### 4. Install PKZIP Command Line V8.1

PKZIP Command Line V8.1 is used by XCVIEW to zip and unzip files. The product can be purchased for less than \$50 from <http://www.pkzipstore.com>. Download and install this product on your XCVIEW server.

### 5. Install the Microsoft .Net Framework 2.0

To install the Microsoft .Net Framework 2.0, execute dotnetfx.exe. You may find that .Net Framework 2.0 is already installed. If so, this step can be skipped.

## 6. Install SQL Server 2005

Install SQL Server 2005 if you haven't already. Be sure to select the default sort order and code page ([Latin1-General, case-insensitive, accent-sensitive, kanatype-insensitive, width-insensitive for Unicode Data, SQL Server Sort Order 52 on Code Page 1252 for non-Unicode Data](#)).

This sort order was used to develop and test XCVIEW 3.0.

*IMPORTANT NOTE!!! - XCVIEW 3.0 stored procedures will require significant changes and retesting if you select a sort order that is a **case sensitive** sort order.*

## 7. Install XCVIEW 3.0

**IMPORTANT – READ FOLLOWING BEFORE INSTALLING XCVIEW 3.0 files!!!** -- If you have a previously installed version of XCVIEW, *you must create a backup copy of the D:\XCVIEW directory and its subdirectories in a safe location.* The installation process will replace many of the existing files in the D:\XCVIEW directory. The old files may not be needed. But if you have problems and require support from the WSDOT CVISN support staff, access to the old files may be necessary.

To install the required XCVIEW 3.0 files and directories, use a zip/unzip utility (like WinZip) to restore the contents of [XCVIEW\\_30\\_Setup.zip](#) into directory D:\XCVIEW.

Be sure to save a copy of [XCVIEW\\_30\\_Setup.zip](#) in directory D:\XCVIEW\Setup in case you need it later.

## 8. Modify Site Specific Environment Variables

If you do not have an existing XCVIEW.BAT file (from a previous version of XCVIEW), create a XCVIEW.BAT and SAFER\_BL\_UD\_DOWNLOAD.BAT from the sample BAT files in the "D:\XCVIEW\Sample BAT files" directory and place the modified versions of these files in the D:\XCVIEW directory. See the comments in the sample BAT files for further instructions.

**Please Note:** If you are going to be a WSDOT XCVIEW client (i.e., connecting to the WSDOT CVISN ftp server instead of the SAFER ftp server), you will need to specify the indicated environment variable values for WSDOT clients.

If you already have an XCVIEW.BAT, compare it carefully to the sample XCVIEW.BAT in the "D:\XCVIEW\Sample BAT files" directory. There are a few new parameters you may not have and, more importantly, there is now a 5<sup>th</sup> step in XCVIEW.BAT that automatically imports the SAFER baseline data. You will want to be sure to add the automatic baseline file processing to your existing XCVIEW.BAT.

Once you have changed XCVIEW.BAT, make similar changes to the environment variable settings in SAFER\_BL\_UD\_DOWNLOAD.BAT (find a sample of this file in the "D:\XCVIEW\Sample BAT

files" directory). Place you modified versions of XCVIEW. BAT and SAFER\_BL\_UD\_DOWNLOAD.BAT in your D:\XCVIEW directory.

If you have an existing LoadBaseLine.BAT, it can be deleted. You will no longer need to run this process.

## **9. Create XCVIEW SQL Server databases**

If you already have a CVIEW database from XCVIEW V2.0, rename it to CVIEW\_Old.

Create the following databases with initial and secondary allocations of 500 MB for both the data and log files (allow for unlimited growth):

CVIEW

CVIEW\_XML

CVIEW\_XML\_BL

CVIEW\_XML\_TRACK

CVISN\_TMP

Existing CVIEW\_XML and CVIEW\_XML\_BL databases can be reused. But you will need to delete all of the existing tables in these databases.

## **10. Create XCVIEW Tables**

Create tables for the above databases. To do this, run the following script files (from D:\XCVIEW) using SQL Server Management Studio.

- for CVIEW execute BuildCVIEWdb.sql
- for CVIEW\_XML execute BuildCVIEW\_XMLdb.sql
- for CVIEW\_XML\_BL execute BuildCVIEW\_XMLdb.sql
- for CVIEW\_XML\_TRACK execute BuildCVIEW\_XML\_TRACKdb.sql

## **11. Load Lookup Table Data**

The following CVIEW database lookup tables need to be populated. This can be done by importing the data from the same tables in a previous CVIEW database (like CVIEW\_Old from the previous step) or by restoring the CVIEW\_LOOKUP database and then importing the table data from there (see below).

SQL Server Management Studio is used to import data from one database to another. The CVIEW lookup tables that need to be imported are:

CAR\_VEH\_ACTION\_LOOKUP  
CLASS\_LOOKUP  
HAZMAT\_LOOKUP  
CARGO\_LOOKUP  
IRP\_STATUS\_LOOKUP  
JURISDICTION\_ACTION\_LOOKUP  
JURISDICTION\_LOOKUP  
LI\_AUTHORITY\_STATUS\_LOOKUP  
LI\_INSURANCE\_REQD\_LOOKUP  
LI\_INSURANCE\_STATUS\_LOOKUP  
LI\_INSURANCE\_TYPE\_LOOKUP  
LI\_MEX\_COMM\_ZONE\_LOOKUP  
POWER\_TYPE\_LOOKUP  
USE\_CLASS\_LOOKUP

If you don't have an existing CVIEW database where you can import the above tables, then create the CVIEW\_Lookup database. To do this, restore CVIEW\_Lookup.bak from CVIEW\_Lookup.zip (in D:\XCVIEW). Then restore the CVIEW\_Lookup database using CVIEW\_Lookup.bak (a SQL 2005 database backup file). You will need to use the Restore Database function in SQL Server Management Studio to restore the CVIEW\_Lookup database.

## **12. Configure Batch Scheduling for XCVIEW.BAT, SAFER\_BL\_UD\_DOWNLOAD.BAT, and PurgeCVIEW\_XML.BAT**

XCVIEW.BAT, SAFER\_BL\_UD\_DOWNLOAD.BAT and PurgeCVIEW\_XML.BAT can be executed from a DOS window. But it is recommended that they be executed using a 3<sup>rd</sup> party scheduling tool (WSDOT uses the Camellia Software Batch Job Server product) or the Windows Task Scheduler.

If you use the Windows Task Scheduler for job scheduling, you must use StartXCVIEW.BAT to schedule XCVIEW.BAT, SAFER\_BL\_UD\_DOWNLOAD.BAT and PurgeCVIEW\_XML.BAT. This allows both STDOUT and STDERR output to be saved in the same log file.

To schedule XCVIEW.BAT, SAFER\_BL\_UD\_DOWNLOAD.BAT and PurgeCVIEW\_XML.BAT using Windows Task Scheduler, create the following scheduled tasks.

**Task Name:** XCVIEW Batch Update  
**Run:** StartXCVIEW.BAT XCVIEW.BAT  
**Start in:** D:\XCVIEW

**Comments:** This task performs XCVIEW update processing. CVIEW/SAFER XML transaction files are input, edited and applied to the CVIEW database and appropriate XML transactions are output.

**Schedule:** Schedule as needed. It is recommended that this process be scheduled at least once per day. Updates will be processed by the WSDOT XCIEW process every 15 minutes (approx.).

**Task Name:** XCVIEW Download

**Run:** StartXCVIEW.BAT SAFER\_BL\_UD\_DOWNLOAD.BAT

**Start in:** D:\XCVIEW

**Comments:** This task downloads and unzips SAFER XML transaction files from the SAFER or CVISN host ftp server..

**Schedule:** Schedule as needed. It is recommended that this process be scheduled at least once per day. Updates will be processed by the WSDOT XCIEW process every 15 minutes (approx.).

**Task Name:** Purge Obsolete CVIEW\_XML Data

**Run:** StartXCVIEW.BAT PurgeCVIEW\_XML.BAT

**Start in:** D:\XCVIEW

**Comments:** This task purges old data from the CVIEW\_XML and CVIEW\_XML\_TRACK databases.

**Schedule:** Monthly or weekly scheduling is recommended.

### 13. Load the CVIEW Database

You should now be able to load the CVIEW database. This is done by running the XCVIEW Download task and the XCVIEW Batch Update task defined in the previous step. If these tasks are scheduled to run every 30 minutes, the initial loading of your local CVIEW database will take between 8 and 24 hours depending on the performance of your XCVIEW server.

### 14. CVIEW Database Backup and Disaster Recovery

Your database administrator should add the CVIEW database to the list of databases that are backed up and stored off-site. It is also recommended that your disaster recovery procedures be updated to include restoration of XCVIEW and your local CVIEW database.

## 7 XCVIEW User Manual

### 7.1 Manually Starting or Restarting the XCVIEW Batch Update Process

If you have scheduled the XCVIEW Batch Update process to run as a Windows Scheduled Task and you want to manually start it, right click on the XCVIEW Batch Update task and click Run.

The XCVIEW Batch Update Process is designed to be self-restartable. If an instance of XCVIEW Batch Update Process fails to complete successfully, the next instance will automatically complete any processing that was left unfinished.

**Windows Task Scheduler Limitations** - Note that if you stop the XCVIEW Batch Update Process using the Windows Task Scheduler End Task command, the job will appear to stop. But unfortunately Windows Task Scheduler is not smart enough to keep track of and stop all of the sub tasks that are started by the XCVIEW Batch Update Process.

The XCVIEW Batch Update Process will fail if it is restarted before the XCVIEW Batch Update Process subtasks (cmd.exe, ftp.exe, XCVIEWImport.exe and XCVIEWExport.exe) have terminated. If for some reason you need to stop and restart the XCVIEW Batch Update Process, you will need to either reboot the computer or find and stop all of the XCVIEW Batch Update Process subtasks using Task Manager. This may mean also stopping the XCVIEW Download Process if it is running.

To stop the XCVIEW Download Process, stop the process named XCVIEWDownload.exe (in Processes tab in Task Manager).

### 7.2 Manually Starting or Restarting the XCVIEW Download Process

If you have scheduled the XCVIEW Download process to run as a Windows Scheduled Task and you want to manually start it, right click on the XCVIEW Batch Update task and click Run.

The XCVIEW Download Process is designed to be self-restartable. If an instance of XCVIEW Download Process fails to complete successfully, the next instance will automatically complete any processing that was left unfinished.

The instructions and comments regarding restarting of the XCVIEW Batch Process using Task Manager (above) also apply to this process.

### 7.3 Restoring the CVIEW Database

If your CVIEW database becomes corrupted or is destroyed and you have to restore it from a backup copy, you can easily reapply the XML updates that were processed since your last backup was taken. Following are the instructions to do this:

1. Restore the CVIEW database. This can either be done by restoring a backup copy of the CVIEW database. Or, if a good backup is not available, the CVIEW database can be recreated using the instructions in Chapter 6 to install the CVIEW database.
2. Copy the T00nn\_...UD.zip files in the D:\XCVIEW\DOWNLOAD\_IN\SAFER\Archive directory that have a creation date that is later than the creation date of the CVIEW backup file (or baseline files) to the D:\XCVIEW\DOWNLOAD\_IN\SAFER directory.
3. Run the XCVIEW Download Process (SAFER\_BL\_UD\_DOWNLOAD.BAT) to unzip the files copied to the D:\XCVIEW\DOWNLOAD\_IN\SAFER directory.
4. Copy the XCVIEWjjnnnnnnn.zip files in the D:\XCVIEW\UPLOAD\_IN\XCVIEW\Archive directory that have a creation date that is later than the creation date of the CVIEW backup file (or baseline files) to the D:\XCVIEW\UPLOAD\_IN\XCVIEW directory.
5. Manually start the XCVIEW Batch Update process.

If you are not sure if .XML file(s) were processed before or after the backup copy of the database was made, you should reprocess the questionable .XML file(s). Note that it will not harm the database if a XML file is processed twice. The only rule here is that the XML files must be processed in time stamp order and you must process all XML files that are newer than the oldest XML file copied to D:\XCVIEW\DOWNLOAD\_IN\SAFER and D:\XCVIEW\UPLOAD\_IN\XCVIEW directories. The XML files copied to these directories will automatically be processed in time stamp order as long as the names remain unchanged.

*Note that steps 2. through 5. above can be used to reprocess XML files in instances where program changes have been made or the XML files have been manually edited.*