Richard Woods, Georgia's School Superintendent
"Educating Georgia's Future"

GEORGIA DEPARTMENT OF EDUCATION
OFFICE OF THE STATE SUPERINTENDENT OF SCHOOLS
TWIN TOWERS EAST
ATLANTA, GA 30034-5001

TELEPHONE: (800) 869 - 1011 **FAX: (404) 651-5006**

http://www.gadoe.org/

MEMORANDUM

TO: PCGenesis System Administrators

FROM: Steven Roache, Senior Information Systems Manager

SUBJECT: Release 19.01.00 – Miscellaneous Updates / Installation Instructions

This document contains the PCGenesis software release overview and installation instructions for *Release 19.01.00*.

PCGenesis supporting documentation is provided at:

http://www.gadoe.org/Technology-Services/PCGenesis/Pages/default.aspx

March, 2019 Payroll Completion Instructions

Install this release after completing the March 2019 payroll(s). Install this release before executing F4 – Calculate Payroll and Update YTD for the April 2019 payroll. Be sure to close out any vendor / accounts payable check run prior to installing this release.

All Rights Reserved.

A PCGenesis E-mail User List Is Available

The Georgia Department of Education has created an e-mail user list for PCGenesis. PCGenesis users can join the list by sending a blank e-mail to:

join-pcgenesis@list.doe.k12.ga.us

After joining the PCGenesis user list, users can take advantage of discussion forums by sending e-mails to:

pcgenesis@list.doe.k12.ga.us

An e-mail sent to pcgenesis@list.doe.k12.ga.us will broadcast the e-mail to all PCGenesis users enrolled in the group. Those PCGenesis districts and RESAs that join the user list will be able to share ideas, discuss problems, and have many more resources available for gaining insight into PCGenesis operations. Join today!

All Rights Reserved.

Table of Contents

Section A: Overview of Release 4

A1. PCGenesis System Enhancements 4

A1.1. Creation of the PCGenesisDB SQL Server Database 4
A1.2. Backup of PCGenesis Data 6
A1.3. Remote Desktop Connection and PCGenesis Security 7
A1.4. VerraDyne Print Queue Update 8

A2. Payroll System 9

A2.1. GACOUNTY File Converted to Database Table 9
A2.2. Import New Employees – Batch Mode 10
A2.3. Export/Import Selected Payroll / Deduction / CPI Information 11
A2.4. Checksum Calculation Corrected for ACA Transmission Files 11

A3. Financial Accounting and Reporting (FAR) System 12

A3.1. Allow up to 40 Items to be Selected Per Wire Transfer 12
A3.2. School Nutrition Online Reporting System (DE 106) 13

Section B: Installation Instructions for Release 19.01.00 Software 14

B1. Perform a PCGenesis Full Backup 14

B2. Verify Windows Security Group GENUSERS 15

B3. Install PCGenesis Release 19.01.00 16

B4. Verify Release 19.01.00 Was Successfully Installed 23

B5. Perform a PCGenesis Full Backup After Release 19.01.00 is Installed 24

All Rights Reserved.

Section A: Overview of Release

A1. PCGenesis System Enhancements

A1.1. Creation of the PCGenesisDB SQL Server Database

The GaDOE is happy to announce a major upgrade of the PCGenesis. Release 19.01.00 marks the start of the conversion of the PCGenesis data into a *SQL Server* database. *SQL Server* is a relational database management system (RDBMS). The new database created in this release is named ***PCGenesisDB***.

In release 19.01.00, the table K:\SECOND\PAYDATA**GACOUNTY** is the first file to be converted into the *SQL Server* database. The **GACOUNTY** table contains the Georgia County Codes and descriptions.

The migration of PCGenesis to a *SQL Server* database is a major undertaking, but a step that it is imperative to take for the longevity of the product. Today, the PCGenesis data is stored in VISION files which are indexed, flat files, and are proprietary to *MicroFocus*. Nothing other than *MicroFocus* ***ACUCOBOL*** can access the data from VISION files. VISION files represent very old technology.

The PCGenesis database is in the following location for ***Windows Server 2012 or 2016***:

- K:\PCGSQLdb\MSSQL**13**.SQLEXPRESSPCG\MSSQL\DATA\ **PCGenesisDB.mdf**
- K:\PCGSQLdb\MSSQL**13**.SQLEXPRESSPCG\MSSQL\DATA\ **PCGenesisDB_log.ldf**

The PCGenesis database is in the following location for ***Windows Server 2008 R2***:

- K:\PCGSQLdb\MSSQL**11**.SQLEXPRESSPCG\MSSQL\DATA\ **PCGenesisDB.mdf**
- K:\PCGSQLdb\MSSQL**11**.SQLEXPRESSPCG\MSSQL\DATA\ **PCGenesisDB_log.ldf**

Why go to all the trouble of converting the old VISION data files? First, updating the data files allows us to implement far better transaction processing. Today, we have problems with data reliability. Today, if a posting process is interrupted because of a power failure, or network hiccup, half of the PCGenesis data files may be updated (for instance the RECEIPT file) and half of the files may not be updated (for instance the AUDIT file). This requires a data repair!!

Second, we can modernize the PCGenesis data structures and allow access to the data from programs other than COBOL programs. This means that as COBOL programmers retire, the data will be accessible to more modern programming languages such as C#, Java, Crystal Reports, etc., and a new generation of programmers will more easily take over maintenance of the product.

The upgrade to *MicroFocus Extend 10* in September of 2016 came with the ability to execute SQL code from within PCGenesis COBOL programs. This feature is called ***AcuSQL***. Having ***AcuSQL*** bundled in with the *MicroFocus Extend 10* runtime allows the Ga DOE to make use of database technology at no extra cost. Industry standard database support is now included in the *MicroFocus Extend 10* ***ACUCOBOL*** runtime product.

All Rights Reserved.

There are many advantages of using a Relational Database:

1. **Simplicity**
   - The table structure is an intuitive organization familiar to most users.
2. **Concurrency**
   - In modern database management systems, we can concurrently access data without fear of data corruption.
3. **Ease of Data Retrieval**
   - Structured Query Language (**SQL**) is the basis for relational database management systems.
   - SQL comes with a rich query set: functions, filters, 'order by' clauses, and 'select' clauses to name a few.
4. **Indexing**
   - Helps to improve the **speed** of data retrieval operations.
5. **Transaction Processing (ACID)**

   Atomicity: Transactions are posted as **ALL** or **NOTHING.** This prevents partial postings from occurring.

   Consistency: Only valid data can be saved to the database. Edits are defined within the database itself to further ensure that bad data is never written to the files.

   Isolation: Transactions do not affect each other, so that one user does not step on the work of another user.

   Durability: Written or saved data will not be lost once it is committed to the database.
6. **Security**
   - Microsoft SQL Server provides security measures to restrict access when necessary, while having the ability to add multiple users and accounts.
   - Databases come with robust internal security, as we've seen from the *VerraDyne* installation.
7. **Client Supportive**
   - Database data becomes available to use with **Crystal Reports** and other report engines.
   - We can use any programming language to access a PCGenesis database.
   - Example: The **VerraDyne** software is written in **Visual Basic**, a relatively modern language, but PCGenesis can also update the VerraDyne database using our own **COBOL** code.
8. **Database management tools**
   - Many database management tools are available.
   - **Database backup** is important. It ensures availability of stable database in case data gets corrupted.
   - **Automatic recovery** features that go into effect, without the need for an administrator to intervene.
   - **Database monitoring and security** are built in.

All Rights Reserved.

9. **Scalability and Flexibility**
   - The SQL database can continue to grow as your needs grows – up to a massive one terabyte in size.
   - Databases are built so that they can continue to grow with no re-designs required!
10. **Data Analysis**
   - Databases have on-board reporting tools
   - Data can easily transfer into presentation modes or Excel, allowing project managers to quickly compile relevant data points into formats suitable for sharing with clients and partners.

Converting PCGenesis to a relational database management system (RDBMS) is a very, very big project. We estimate that it may take several years to convert the software. During that timeframe, major enhancements to PCGenesis will be very limited. However, legislative requirements will always be addressed even during the conversion process.

A1.2. Backup of PCGenesis Data

Going forward, PCGenesis data will be split between files contained in the directory **K:\SECOND** and the new *SQL Server* database table located in **K:\PCGSQLdb**. Therefore, it will be very important to backup **K:\PCGSQLdb** and **K:\SECOND** during the nightly backup. One directory can not be backed up without the other directory, and they must be maintained together. To create a complete backup of the PCGenesis system, the following directories need to be backed up together.

The following directories are needed for disaster recovery:

- **K:\SECOND** – PCG payroll & financial data
- **K:\PCGSQLdb** – The database data for the *PCGenesisDB* database and the *VerraDyne* print queue
- **K:\UCTARCHIVE** – Archived PCGenesis reports in pdf format
- **K:\UCTPRINT** – PCGenesis report files currently in the print queue

Prior to running a backup of the **K:\PCGSQLdb** directory…

- School districts must stop the *VerraDyne Queue Service* and the *SQL Express* services
- Otherwise, the backup will not run to completion.
- The following commands should be entered in the command prompt for *Windows* or added to the backup bat file to stop the services.

Prior to running a backup of the **K:\PCGSQLdb** directory…

- **NET STOP VQueueService**
- **NET STOP MSSQL$SQLEXPRESSPCG**

All Rights Reserved.

After the backup has completed, the following commands can be executed…

- The following commands should be entered in the command prompt for *Windows* or added to the backup bat file to start the services.
- **NET START MSSQL$SQLEXPRESSPCG**
- Make sure to **wait at least 2 minutes** for **SQLEXPRESSPCG** to start before trying to start **VQueueService**
- **NET START VQueueService**

A1.3. Remote Desktop Connection and PCGenesis Security

The GA DOE is currently working with a security consultation company to explore how security can be improved for the PCGenesis server and data. Specifically, the GA DOE is exploring how to provide better protection against ransomware and mal-ware from infecting the PCGenesis server. After an initial consultation, the security experts advised that PCGenesis' greatest vulnerability was the way individual workstations map the **K:** drive as ***PCGServer*\PCGenesis$.** Mapping a drive to the PCGenesis server from each individual workstation may provide an access point for ransomware and mal-ware to infect the server by way of an individual user who has inadvertently downloaded a virus.

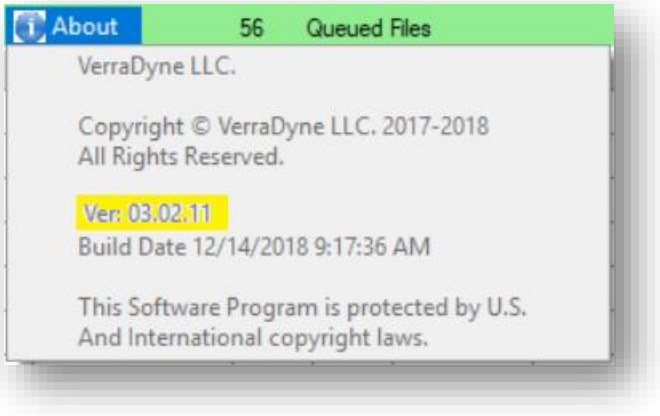
As an answer to this problem, the security consultants recommend that the PCGenesis application be accessed using a **Remote Desktop Connection.** The recommendation is to utilize **Remote Desktop Connection** instead of mapping the PCGenesis server as a drive on individual workstations. This would add a level of obfuscation and complexity that would help prevent mal-ware from infecting the PCGenesis server.

Therefore, the GA DOE would like to recommend **Remote Desktop Connection** as the preferred method for all users accessing PCGenesis. **Remote Desktop Connection** has several advantages in addition to providing better protection for the PCGenesis server and data. It allows the PCGenesis application to run much faster, and because the application will continue to run even if the network connection goes down, data reliability is also improved.

All Rights Reserved.

A1.4. VerraDyne Print Queue Update

PCGenesis release 19.01.00 delivers an upgrade to the *VerraDyne Queue Manager*. *VerraDyne* version 03.02.11 is now available as shown below.



VerraDyne Queue Manager

VerraDyne version 03.02.11 fixes a problem with sorting the contents of the print queue. Before, the **Date** column was formatted as *MM/DD/CCYY hh:mm*. With the **Date** column formatted with the month first, sorting the contents of the print queue by date did not work correctly. Now the **Date** column is formatted as *CCYY/MM/DD hh:mm* and if the print queue is sorted by date, it is sorted correctly.

All Rights Reserved.

A2. Payroll System

A2.1. GACOUNTY File Converted to Database Table

Release 19.01.00 converts the VISION indexed file *K:\SECOND\PAYDATA**GACOUNTY*** into a PCGenesis database table called ***t_lookup.GA_County.***

The ***t_lookup.GA_County*** table stores the Georgia County codes and descriptions. It is a reference file that is read but not written or updated in any program. The following modules utilize the ***t_lookup.GA_County*** table:

- *Add New Employee* (F2, F2, F1)
- *Update/Display Personnel Data* (F2, F2, F2)
- *Print GHI Eligibility, Participation, Dates and Options* (F3, F6, F7)
- *Display/Update Third Party Contractors* (F4, F2)
- *Detailed Pay Stub – Employee Message* (F2, F2, F18)
- *Import New Employees – Batch Mode* (F2, F13, F8, F9)
- *Tax Withholding / Control Menu* (F2, F13, F3)

All Rights Reserved.

A2.2. Import New Employees – Batch Mode

The *Import New Employees – Batch Mode* (F2, F13, F8, F9) option on the *Payroll Export/Import Menu* has been updated to import the employee **County Code** field. Two updated templates have been added to the PCGenesis documentation website, and payroll administrators should be sure to download the most up-to-date templates from the website before using the *Import New Employees* option. The updated templates are the *PCGenesis New Single Employee Template* and the *PCGenesis New Multiple Employees Template* and are located at the website below:

http://www.gadoe.org/Technology-Services/PCGenesis/Pages/Payroll-System-Operations-Guide.aspx

When the user enters the *Import New Employees – Batch Mode* process, a screen is presented with the following two options:

The new hire import process will facilitate gathering employee information from multiple departments and/or schools into Microsoft® Excel Spreadsheets/Workbooks which can then be loaded into the PCGenesis system either individually, or in batch mode. Three methods are now offered for importing new employee data:

1. Users will be able to use the *PCG_New_One_Employee.xlsx* template in the creation of new employees through the *Add New Employee* (F2, F2, F1) on-line screen. Users may select

F17 (Import new employee data) to import the data from a comma-delimited file. If the import is successful, the import data will be displayed on the *New Employee* screen, and the payroll administrator will be able to finish editing and adding the employee data.

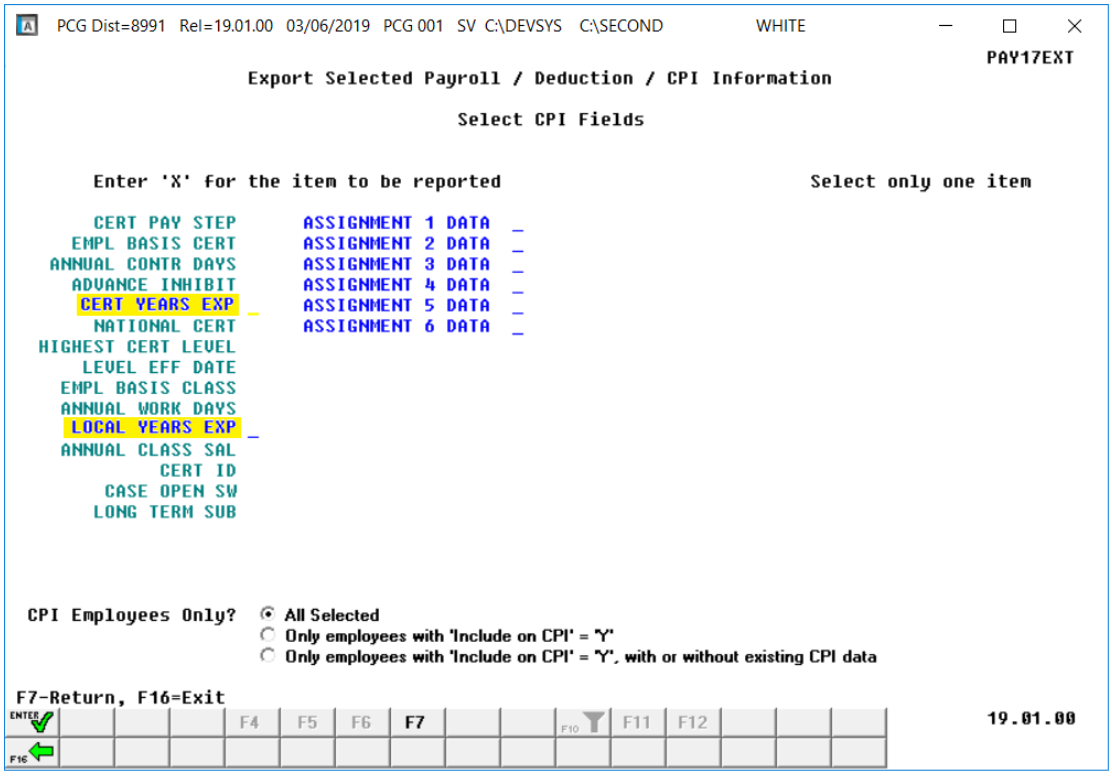
2. A batch process has been provided which loads multiple employee import files at the same time. This process will read a directory which contains multiple single-employee import files and import all of the individual files at once. The *Import New Employees – Batch Mode* (F2, F13, F8, F9) option will be available from the *Special Functions Menu,* and the *Payroll Export/Import Menu.* The user will be able to run this process in trial mode or final mode. The process will create new employees for everything that passes edits and will bypass any files which contain errors. Three reports are produced from the batch process: one report listing the valid employees, one report listing the employee files with errors, and a summary report which displays the results for each file.

3. A new batch process has been added which loads multiple employees from one file. The new *Import New Employees – Batch Mode* (F2, F13, F8, F9) option will be available from the *Special Functions Menu,* and the *Payroll Export/Import Menu.* The user will be able to run this process in trial mode or final mode. The process creates new employees when all data passes the edits, and no errors exist.

All Rights Reserved.

A2.3. Export/Import Selected Payroll / Deduction / CPI Information

Support has been added to the *Export Selected Payroll/Deduction/CPI Information* (F2, F13, F8, F5) and the *Import Selected Payroll Information or CPI Assignment Data* (F2, F13, F8, F6) features for the export/import of two additional CPI fields. The user is now allowed to select the **Cert Years Exp** (Certified years of experience) field and the **Local Years Exp** (Local years of experience) field for export from and import to the *Payroll File*.



A2.4. Checksum Calculation Corrected for ACA Transmission Files

The *ACA Transmission File* created during the *Print 1094-C & Employee 1095-C's & Create File* process (F2, F4, F7) has been updated to correct an error. Before, the checksum logic was not working correctly when old computer workstations where used to create the *ACA Transmission File*. Old computer workstations return a checksum which is 96 characters in length and the PCGenesis program did not handle all 96 characters. This problem has been corrected.

All Rights Reserved.

A3. Financial Accounting and Reporting (FAR) System

A3.1. Allow up to 40 Items to be Selected Per Wire Transfer

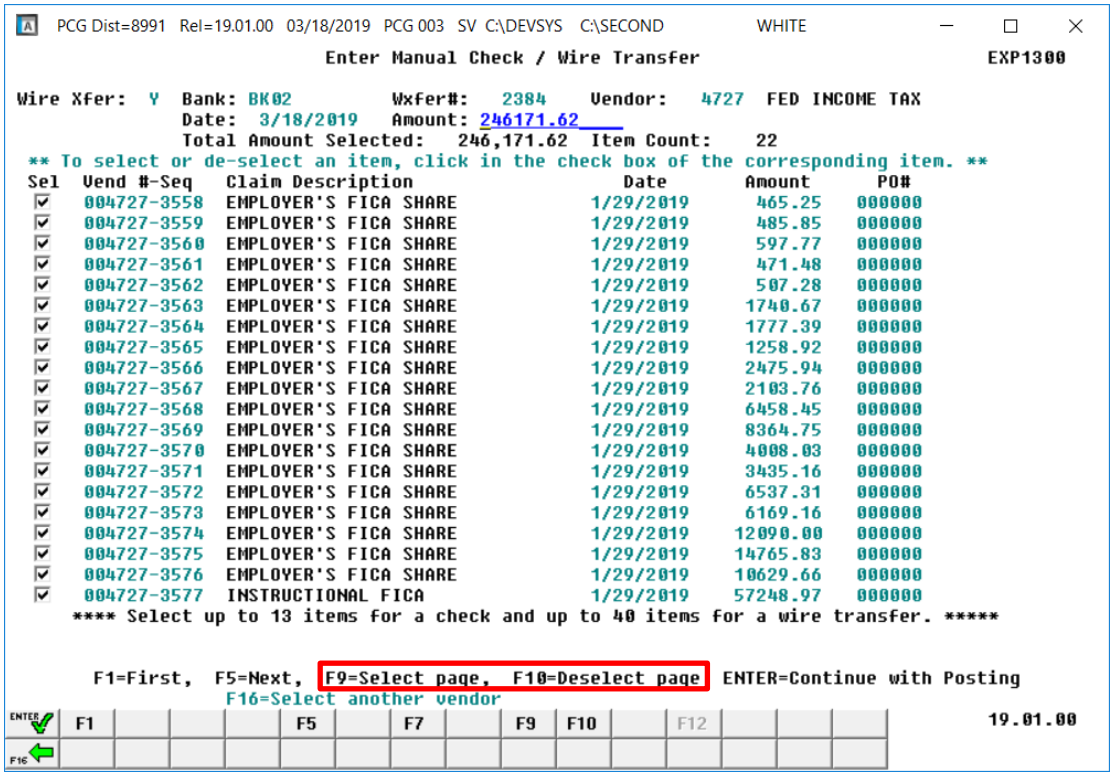
An enhancement has been made to Wire Transfer processing (F1, F4, F7). Before, only 13 expenditures could be selected per wire transfer when creating a manual vendor check. Now, up to 40 expenditures may be selected for a single wire transfer. This enhancement will reduce the number of wire transfers that are necessary for paying claims. This saves time and effort and improves reliability by reducing data entry. Release 19.01.00 automatically converts the *Vendor Check Master* and the *Wire Transfer Master* files to increase the number of expenditures per wire transfer from 13 to 40 expenditures.

While the number of expenditures per wire transfer has increased to 40, the number of items that can be selected for a vendor check remains unchanged at 13 items per vendor check. This restriction remains because only 13 expenditures can be printed on the physical vendor check form.

In summary, PCGenesis users should be aware of the following when entering manual vendor checks and wire transfers against expenditures:

- During entry of manual vendor checks, up to 13 items may be selected for a vendor check.
- During entry of a manual wire transfer, up to 40 items may be selected for a wire transfer.

The *Enter Manual Check / Wire Transfer* screen has also been updated to allow selection / deselection of an entire page of claims at one time. The function **F9** (Select page) selects up to 13 items for a vendor check and up to 20 items per page for a wire transfer. The function **F10** (Deselect page) deselects up to 13 items for a vendor check and up to 20 items per page for a wire transfer.



All Rights Reserved.

A3.2. School Nutrition Online Reporting System (DE 106)

Before, the *School Nutrition Online Reporting System File (DE 106)* (F1, F9, F1, F9) was not picking up revenue program codes **5400** through **5995**. This problem has been corrected.

All Rights Reserved.

Section B: Installation Instructions for Release 19.01.00 Software

B1. Perform a PCGenesis Full Backup

Proceed to section *B2. Verify Windows Security Group GENUSERS* in this document if these two conditions are met:

1. The prior evening's full system backup was successful.
   - In addition to its current labeling, also label the prior evening's backup media as **"Data Backup Prior to Release 19.01.00**".
   - Continue to use the backup in the normal backup rotation.
2. If no work has been done in PCGenesis since the prior backup.

Otherwise, continue with the instructions in section *B1. Perform a PCGenesis Full Backup* if these two conditions are not met.

Step	Action
1	**Verify all users are logged out of PCGenesis**.
2	Stop the VerraDyne Queue Service (**VQueueService**) and the SQL Express Service (**SQLEXPRESSPCG**) prior to running a full backup of the **K:** PCGenesis disk drive or else the backup will not run to completion. If the *Uspool* background task has not yet been removed from the from "A*ll Users Startup",* close *Uspool* at the server. *Uspool* must be permanently removed and should no longer be running on the server.
3	Perform a **PCG Full Backup** to CD or DVD or USB.
4	When the PCGenesis backup completes, label the backup CD or DVD or USB **"Full System Backup Prior to Release 19.01.00**".
5	Proceed to *B2. Verify Windows Security Group GENUSERS.*

All Rights Reserved.

B2. Verify Windows Security Group GENUSERS

The GaDOE is happy to announce that we are rolling out a major upgrade for PCGenesis in release 19.01.00. The DOE is starting the conversion of PCGenesis data tables into a *SQL Server* database in the 19.01.00 release.

Operating System Requirements for the PCGenesis Database

1. Prior to release 19.01.00, the PCGenesis document *New Server Installation Checklist* recommended setting up **GENUSERS** as the Windows Server security group for all PCGenesis users, but this requirement was not enforced. Please refer to *Page 2, Step 4* in the following document:

   http://www.gadoe.org/Technology-Services/PCGenesis/Documents/Tech_A1_New_Server_Install.pdf

   Starting with release 19.01.00, the security user group GENUSERS is now required.

2. Please forward this notice to your IT support team and ask them to verify the setup of **GENUSERS** on your PCGenesis Windows Server. If **GENUSERS** is not the current security group for PCGenesis users, please have the IT staff set up **GENUSERS** as directed in the document referenced above.

If you have any questions or need further assistance, please contact the Technology Management Customer Support Team by using the Help-dticket link on the left side of the MyGaDOE portal menu.

To Login to the MyGaDOE portal please follow this link: https://portal.doe.k12.ga.us/Login.aspx

All Rights Reserved.

B3. Install PCGenesis Release 19.01.00

FROM THE PCGENESIS SERVER

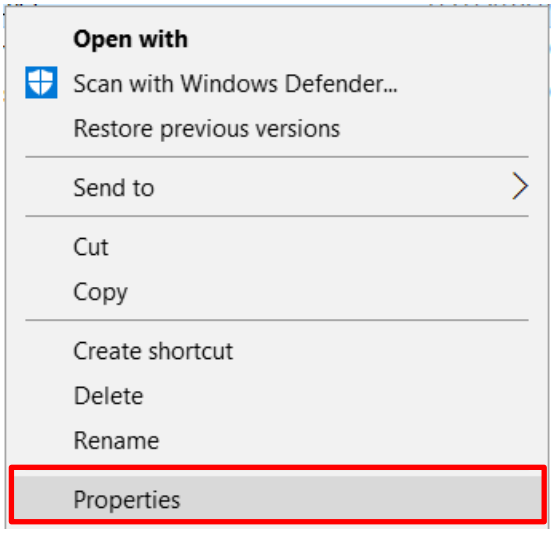
Important Note

The person installing the PCGenesis release must be a member of the system administrator security group on the PCGENESIS server!

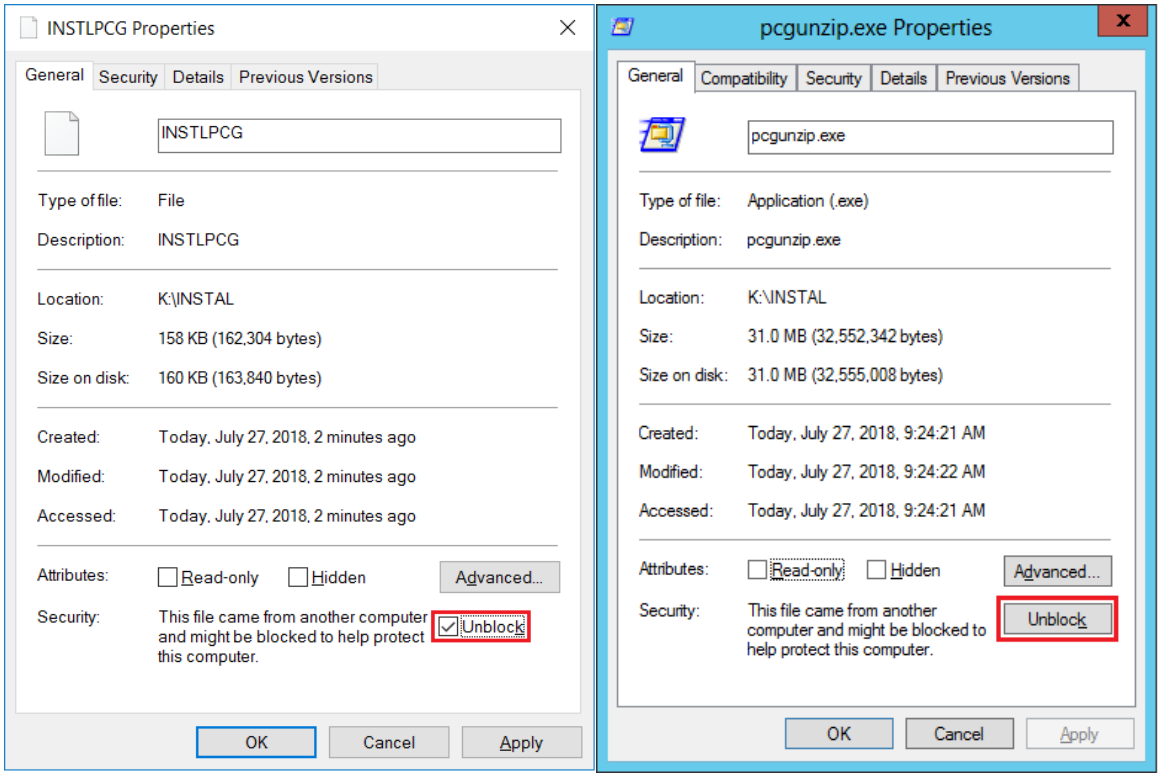
Step	Action
1	**NOTE:** The person installing the PCGenesis release must be a member of the system administrator security group on the PCGenesis server. This is required to properly install the ***PCGenesisDB*** database components contained in this release.
2	**Verify all users are logged out of PCGenesis**.
3	Open **Windows® Explorer**.
4	Navigate to the **K:\INSTAL** directory.
5	Verify **PCGUNZIP.EXE**, **RELINSTL.BAT**, and **INSTLPCG** display. *If PCGUNZIP.EXE and RELINSTL.BAT and INSTLPCG do not display, return* to the *MyGaDOE Web portal, and detach the files from the Web portal again.*
6	***** ALERT ***** After downloading the files we need to make sure they are not blocked, otherwise when we unzip, ALL the files will all be blocked. This is a new security feature of the Windows Server 2012 / 2016 operating system. To check whether the files have been blocked, **right-click** on each of the downloaded files and select **Properties**. If you see a security message at the bottom, as shown below, you will need to click the '**Unblock**' button. This is a very important step! For each of the downloaded files in **K:\INSTAL**, right-click on the filename and select '*Properties*'.

All Rights Reserved.

After right-clicking on each file, select the '*Properties*' option:

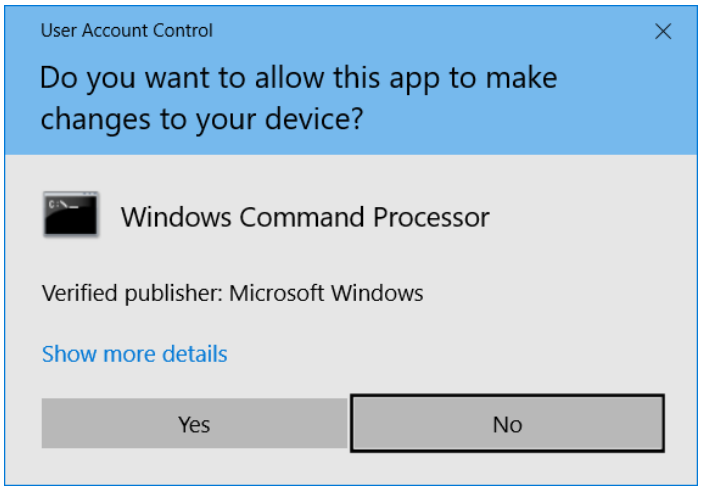


Depending on the version of the Windows operating system, the following screen displays:



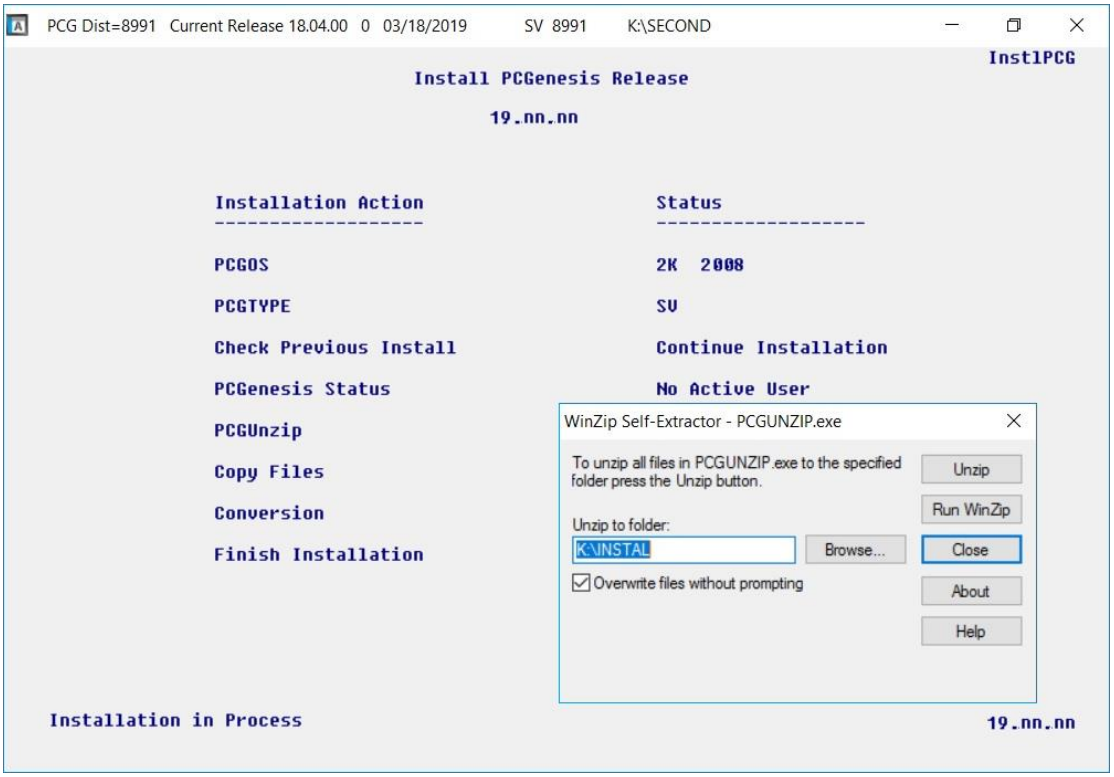
All Rights Reserved.

Step	Action
7	Check the bottom of the '*Properties*' dialog box to see if the following **security** warning is displayed: "*This file came from another computer and might be blocked to help protect this computer*." If the option is presented, select Unblock (**Unblock**) or check ☑ the box to the left of **Unblock**. Do this for each of the files in the **K:\INSTAL** directory.
8	Right-click **RELINSTL.BAT** and select ***Run as administrator*** to perform the installation.
9	If the message "*Do you want to allow this app to make changes to your device?*" is displayed, select Yes (**Yes**) to continue. *Next, a release installation status screen will display showing the release steps as they are completed.*

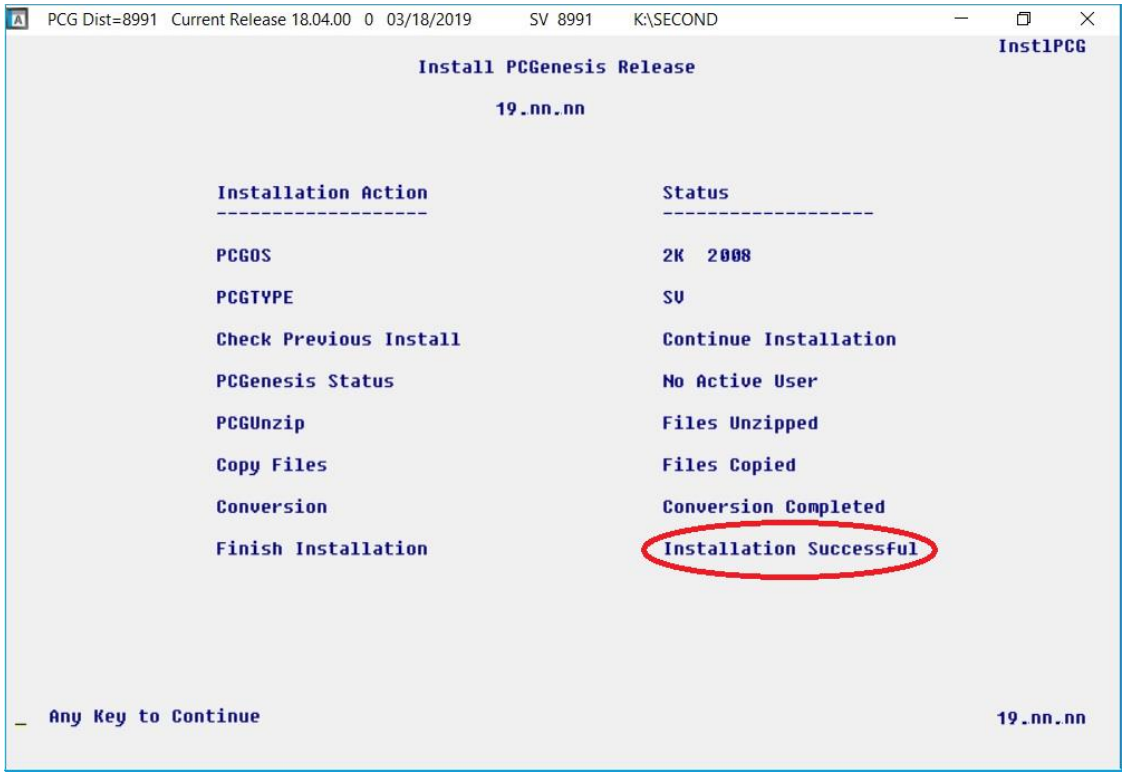


All Rights Reserved.

A screen will display showing the progress of the installation:



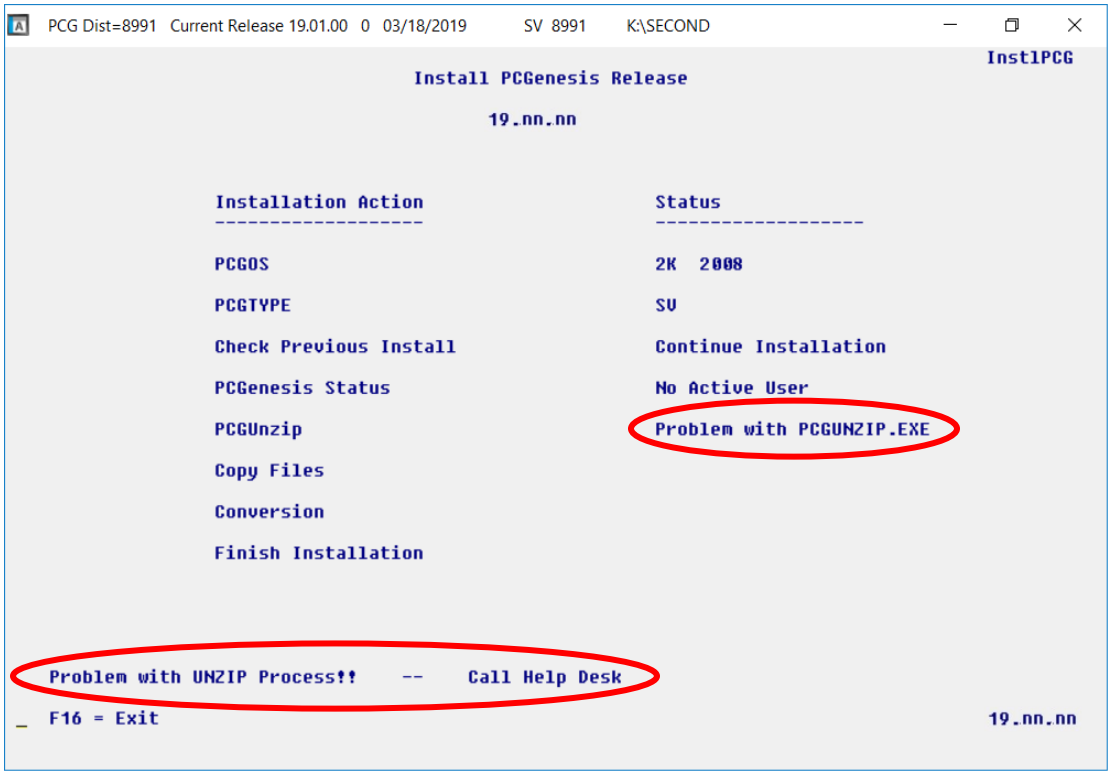
For PCGenesis *Release 19.01.00* successful installations, the following message displays:



All Rights Reserved.

Step	Action
10	Select **Enter** to close the window.
11	**If the installation was successful:** Proceed to *B4. Verify Release 19.01.00 Was Successfully Installed.* **If the installtion was unsuccessful:** Proceed to *Step 12.*

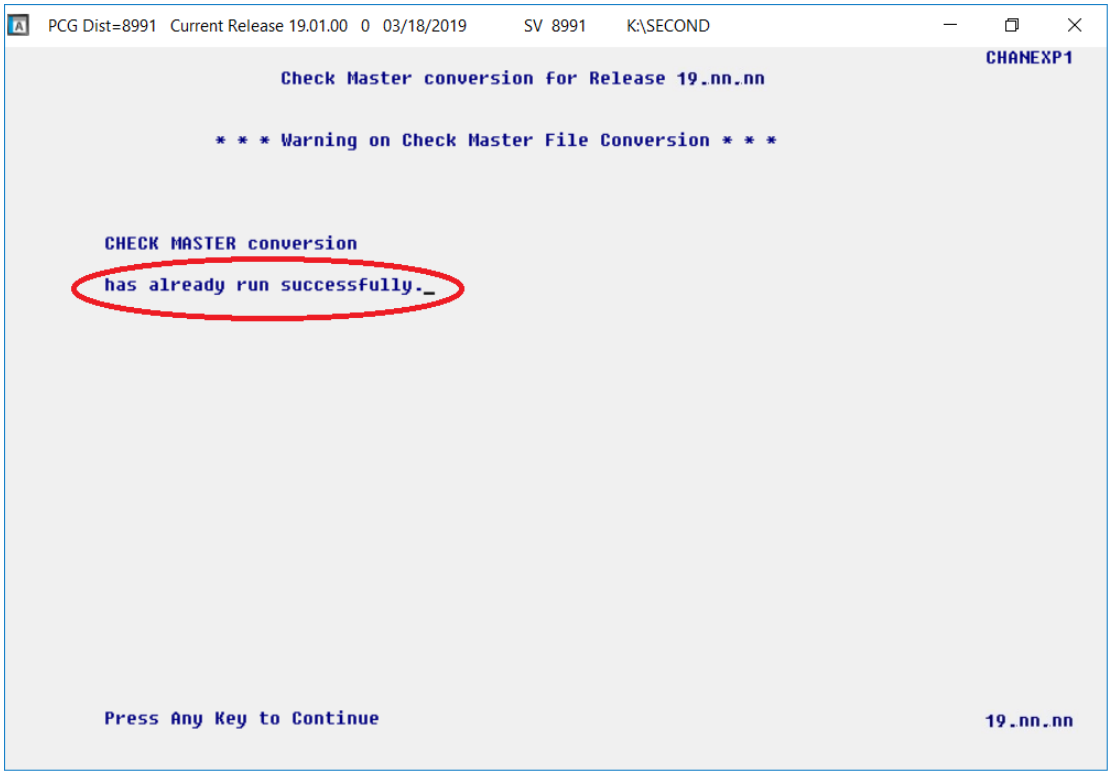
A problem message displays if an error occurred:



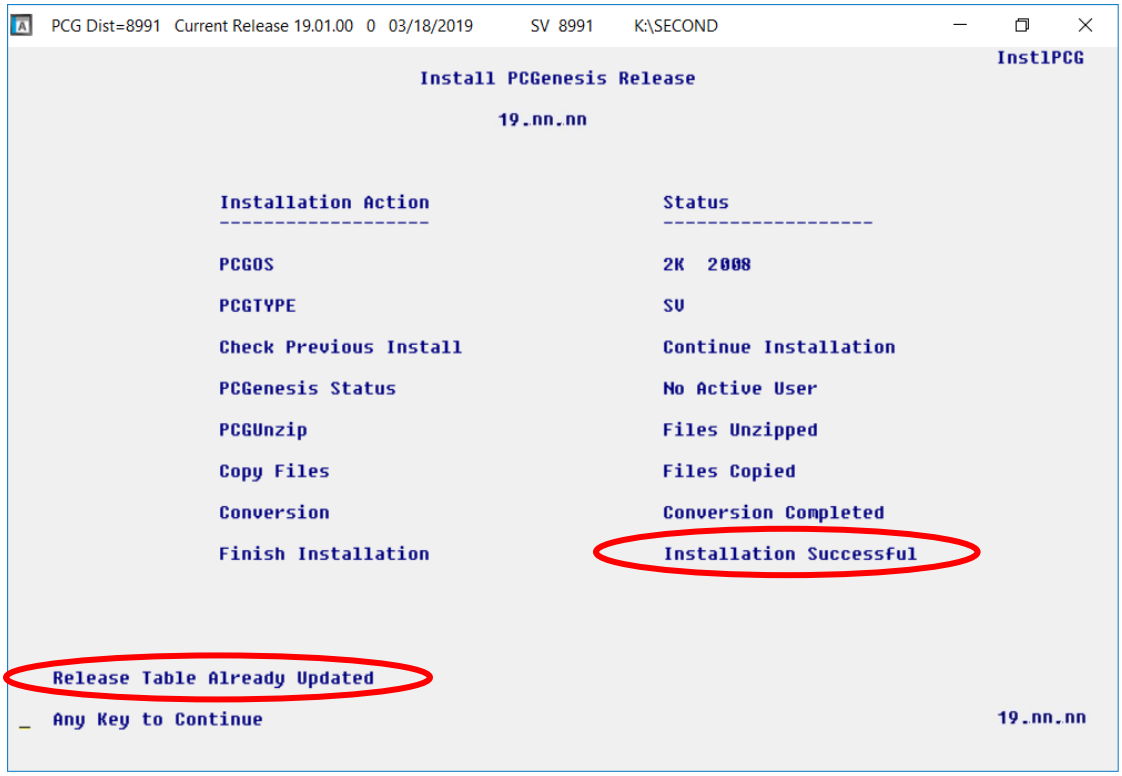
Step	Action
12	Select **F16** to close the window.
13	Return to the *MyGaDOE* Web portal, and detach the files again.
14	*Contact the Technology Management Customer Support Center for additional assistance if needed. A description of the error will display with instructions to call the Help Desk.*

All Rights Reserved.

A warning message will display if the release installation is repeated:



A warning message will display if the release installation is repeated, but in this case, the installation is considered successful. In this instance, select any key to continue:



All Rights Reserved.

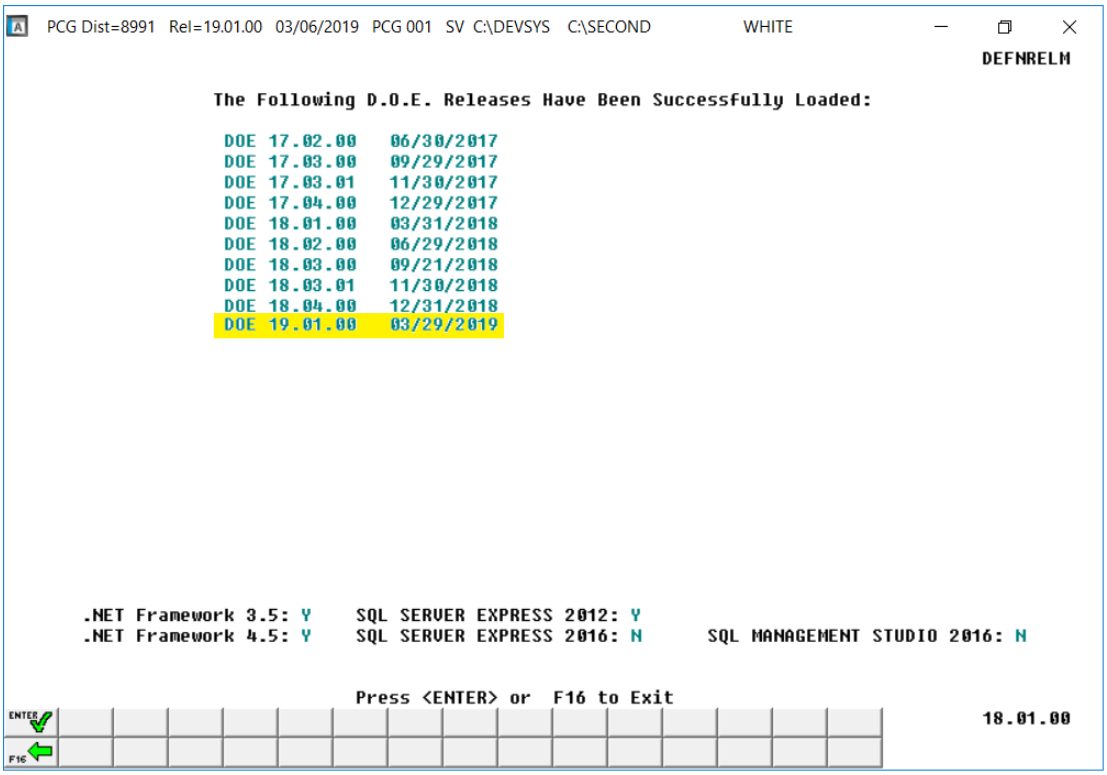
Step	Action
15	Proceed to *B4. Verify Release 19.01.00 Was Successfully Installed.*

All Rights Reserved.

B4. Verify Release 19.01.00 Was Successfully Installed

Step	Action
1	**Log into PCGenesis**.
2	From the *Business Applications Master Menu*, select 30 (**F30** - System Utilities).
3	From the *System Utilities Menu*, select 17 (**F17 -** Display Current Release Number).

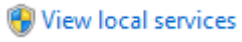
The following screen displays:



Step	Action
4	Verify **Release 19.01.00** displays. *The number of releases and the release installation date displayed may not correspond with the preceding screenshot example. This is acceptable as long as **DOE 19.01.00** displays.* *If Release 19.01.00 does not display, contact the* Technology Management Customer Support Center *for assistance.*
5	Select **Enter**.
6	Log off the PCGenesis server.
7	Verify users remain logged out of PCGenesis.

All Rights Reserved.

B5. Perform a PCGenesis Full Backup After Release 19.01.00 is Installed

Step	Action
1	**Verify all users are logged out of PCGenesis**.
2	Stop the VerraDyne Queue Service (**VQueueService**) and the SQL Express Service (**SQLEXPRESSPCG**) prior to running a full backup of the **K:** PCGenesis disk drive or else the backup will not run to completion. If the *Uspool* background task has not yet been removed from the from "A*ll Users Startup",* close *Uspool* at the server. *Uspool* must be permanently removed and should no longer be running on the server.
3	Perform a **PCG Full Backup** to CD or DVD or USB.
4	When the PCGenesis backup completes, label the backup CD or DVD or USB **"Full System Backup After Release 19.01.00**".
5	Restart the SQL Express Service (**SQLEXPRESSPCG**). After waiting at least two minutes, restart the **VQueueService** in  (**View local services**).

All Rights Reserved.