

Cypriolies Ltd.

Version 4.1.2.0



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1. Introduction to iSTREAM Access for Windows

iSTREAM is a Licensed Program for IBM i operating system designed to improve performance characteristics of long running batch processes. Performance improvements are generally achieved by implementation of multiple parallel programming techniques. iSTREAM includes four main components, Performance Investigator, also known as iSTREAM PI, iSTREAM Accelerator, iSTREAM File Replicator, and a Graphical User Interface in the form of iSTREAM Access for MS Windows. iSTREAM Accelerator includes two subcomponents, iSTREAM CL Command Transformer(CCT) and iSTREAM Generic Multistreaming Toolkit.

Both iSTREAM installation and configuration can be performed directly on the IBM i server with the use of the 5250 display interface. The 5250 interface can also be used to perform performance investigations with iSTREAM PI, although analytical reporting available on the server is somewhat limited, for no graphics or additional massaging of the data generated by Query Management queries are available on the server.

iSTREAM Access for MS Windows is a collection of Graphical User Interfaces opening access to the entire range of iSTREAM functionality from MS Windows. Specifically, MS Excel and Java Swing frameworks are used by iSTREAM Access for MS Windows in order to increase the efficiency of administering iSTREAM installations and conducting performance investigations of the server.

iSTREAM Access for Windows is licensed on the IBM i server, with iSTREAM LP (7S77STR) Option 6 software required to support its operation. The MS Windows elements of the interface are packaged as a Windows App that communicates to a single or multiple IBM i partitions. The iSTREAM server software can be installed and managed using Java Open Source JTOpen library, a functional equivalent of the IBM Toolbox for Java. A copy of the library is included in the distribution of the iSTREAM Windows App under the [IBM Public License \(IPL\)](#).

1.1 **iSTREAM Access for MS Windows components**

iSTREAM Access for MS Windows includes the following four executables:

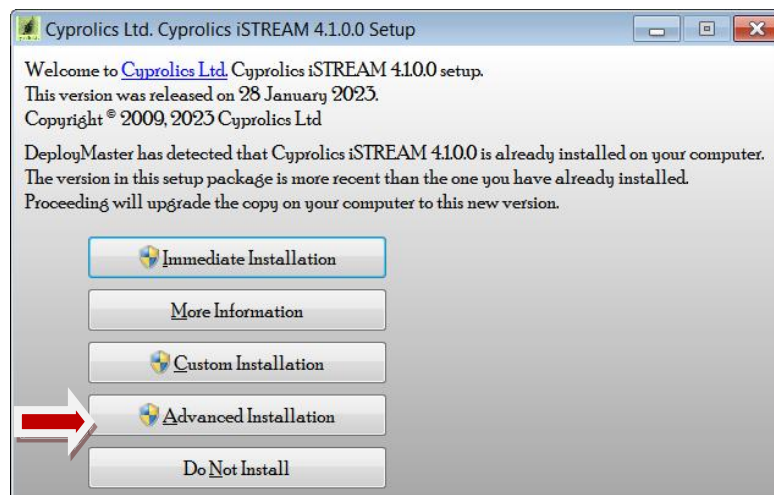
- **iSTREAM Installation Manager**, a GUI providing access to the iSTREAM LP installation options. If the distribution save files are copied to the iSTREAM Access for Windows user data folder, this interface allows to manage iSTREAM LP installation in multiple target IBM i server partitions
- **iSTREAM PTF Manager**, a GUI for managing iSTREAM PTF sets and PTFs in multiple target IBM i server partitions. In order to use it, the distribution Pvvvyyymmdd file has to be copied to the same user data folder.
- **iSTREAM Accelerator**, a GUI for configuring iSTREAM units, setting up and monitoring command and program transformations provided by iSTREAM CL Command Transformation utilities and iSTREAM Generic Multistreaming Toolkit (options 1-4).

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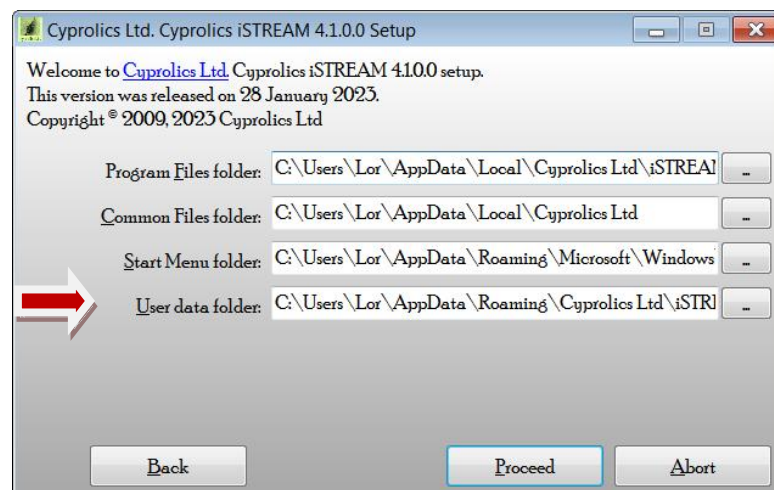
- **iSTREAM Performance Investigator**, a GUI facilitating performance investigations using iSTREAM option 5. This interface includes analytical reports and graphs implemented in MS Excel.

1.2 Installation

Installation of iSTREAM Access for MS Windows has to be performed on both the IBM i server and Windows system. The server component of iSTREAM Access for MS Windows is packaged as option 6 of iSTREAM (7S77STR) Licensed Product. The client component is distributed as a Windows executive "*iSTREAM 4.1.x installer.exe*". The client component of iSTREAM Access for MS Windows offers two modes of installation, normal and advanced. The latter can be requested by clicking the related button on the first installer input screen similar to the following:



Immediate Installation installs the App for all users, while in the case of Advanced Installation, the user is given a choice of whether to install it for the current user or all Windows users. Advanced Installation mode also allows the target folder redefinition:





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The administrator in charge of iSTREAM Access for MS Windows should take note of the location of the user data folder. Normal Installation process would typically create it in the common Windows program data folder:

`C:\ProgramData\Cyprolics Ltd\iSTREAM`

Advanced Installation would by default create this folder in the same location, if the installation is performed for all users, and as follows:

`C:\Users\"user"\AppData\Roaming\Cyprolics Ltd\iSTREAM`

if the installation is performed for the current user.

In either case a placeholder file

`UserData marker.txt`

is added to the user data folder.

Product and PTF set save files downloaded from the Cyprolics web site should be copied to this folder in order for the Installation Manager or PTF Set manager to be able to access them.

1.3 Licensing

All iSTREAM options including Access for MS Windows are licensed on the server. The Windows executables communicate to the target IBM i server using Java JTOpen library and perform necessary license checking.

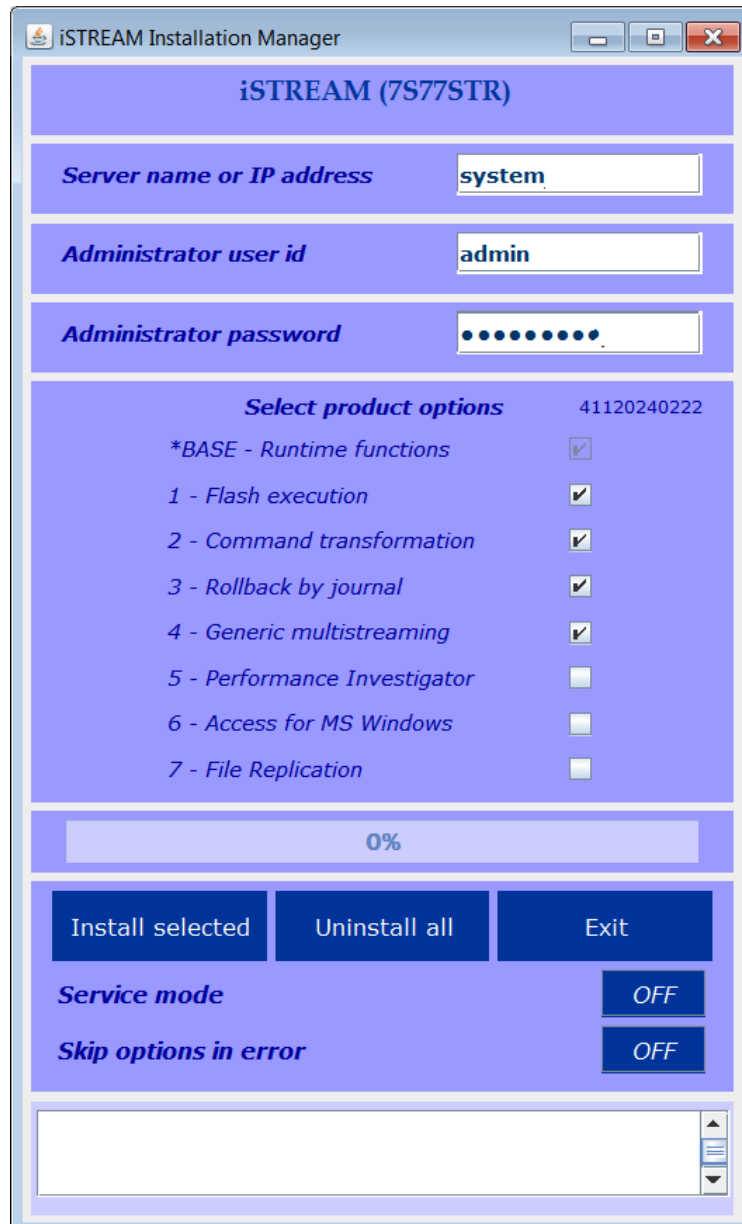
Windows executables included in iSTREAM Access for MS Windows require the following licences to be acquired:

- **Installation Manager** - no licence required
- **PTF manager** - licence for Option 6
- **Accelerator** (CCT and Multistreaming toolkit) - licence for Option 6 and licence for the Option related to the function used
- **Performance Investigator** - licences for Options 5 and 6

2. Executables

2.1 *Installation manager*

iSTREAM Installation Manager can be used to perform either a full or selective installation of iSTREAM server options.



The image shows the iSTREAM Installation Manager window. The title bar reads "iSTREAM Installation Manager". The main area has a light blue background. At the top, it says "iSTREAM (7S77STR)". Below this are three input fields: "Server name or IP address" with the value "system", "Administrator user id" with the value "admin", and "Administrator password" with a masked password. Below these is a section titled "Select product options" with a version number "41120240222". It lists seven options with checkboxes: "*BASE - Runtime functions" (checked), "1 - Flash execution" (checked), "2 - Command transformation" (checked), "3 - Rollback by journal" (checked), "4 - Generic multistreaming" (checked), "5 - Performance Investigator" (unchecked), "6 - Access for MS Windows" (unchecked), and "7 - File Replication" (unchecked). Below the options is a progress bar showing "0%". At the bottom are three buttons: "Install selected", "Uninstall all", and "Exit". Below these are two more buttons: "Service mode" (set to "OFF") and "Skip options in error" (set to "OFF"). At the very bottom is a text area with a scrollbar.

With the service mode toggle set to **OFF** Installation Manager installs all seven iSTREAM options and then deletes those unselected. This is the full installation preventing the user from having a mix of options from different modifications of iSTREAM software. All eight distribution save files have to be manually copied to

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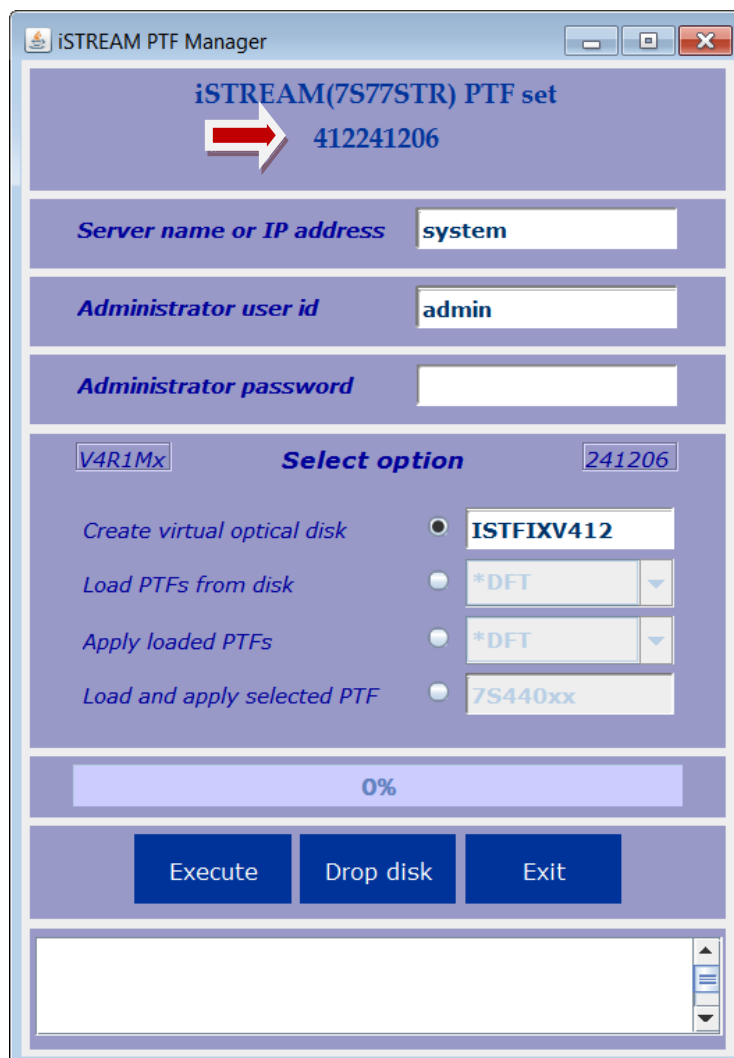
the User Data folder (see section 1.2 for details) before the installation can take place.

Setting the value of the toggle to **ON** turns on the service mode. This mode allows selective installation of all iSTREAM options. Installation of Option *BASE, mandatory in the normal mode, can be skipped in the service mode.

The other toggle helps ignoring persistent installation errors. By default, a failure to install an option cases the entire installation process to be aborted.

2.2 PTF manager

iSTREAM PTF Manager is a GUI that can be used to create PTF media from distribution PTF sets, load and apply both groups of PTFs and individual PTFs. PTF set save file (or files) have to be downloaded from www.cyprolics.co.uk/download page and copied to the User Data folder (see section 1.2 for details) before the PTF manager can be used. The main menu of the GUI looks like this:



The screenshot shows the iSTREAM PTF Manager window. At the top, it displays "iSTREAM(7S77STR) PTF set" with a red arrow pointing to the value "412241206". Below this are three input fields: "Server name or IP address" with the value "system", "Administrator user id" with the value "admin", and "Administrator password" which is empty. A section titled "Select option" contains a "V4R1Mx" label on the left and a "241206" label on the right. It lists four options with radio buttons: "Create virtual optical disk" (selected), "Load PTFs from disk", "Apply loaded PTFs", and "Load and apply selected PTF". Each option has a corresponding dropdown menu. The first dropdown shows "ISTFIXV412", the second and third show "*DFT", and the fourth shows "7S440xx". Below these options is a progress bar showing "0%". At the bottom are three buttons: "Execute", "Drop disk", and "Exit". A large empty text area is at the very bottom.



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The numeric identifier displayed at the top of the GUI windows is the identifier of the latest PTF set found in the User Data folder. If no PTF set files are found, a string of 0s is displayed.

Program temporary fixes for iSTREAM are distributed as PTF sets. A PTF set is a save file containing save files for individual PTFs. PTF save files conform to the PTF architecture for IBM i LPs. PTF sets are packaged as virtual optical disk images.

When a new PTF set is downloaded from the Cyprolics web page it has to be uploaded to the IBM i server using the first option of the menu. After the upload, the PTF set takes the form of a virtual optical disk loaded into the device with the name specified (by default, ISTFIXVO01). When no longer needed, the virtual disk can later be deleted using the "Drop disk" button.

Once the virtual optical drive containing a PTF set has been created, standard IBM commands from the PTF group can then be used to install the actual PTFs. It may be necessary to manually install certain PTFs from the set in order to proceed.

The second and third option of the menu can be used to load and apply all the recommended PTFs of a certain type from the set. The following types have been defined:

- *DFT - recommended PTF
- *EQDFT - PTFs recommended for iSTREAM to Finastra Equation handshaking
- *HYPER - critical PTFs only
- *HIDDEN - PTFs providing optional functionality

Installation of new functional packs has to be requested explicitly. PTFs of the *HIDDEN type can only be installed selectively using the last option.

The fourth option helps load and apply a single PTF from the earlier created virtual optical disk. If the PTF with the specified identifier is not found on the disk, an attempt is made to download and apply this PTF directly from the Cyprolics web PTF repository. This function requires an active connection to the Internet.

The description of the hidden PTFs, as well as the list of PTF included in the latest set, can be downloaded from the www.cyprolics.co.uk/download web page.

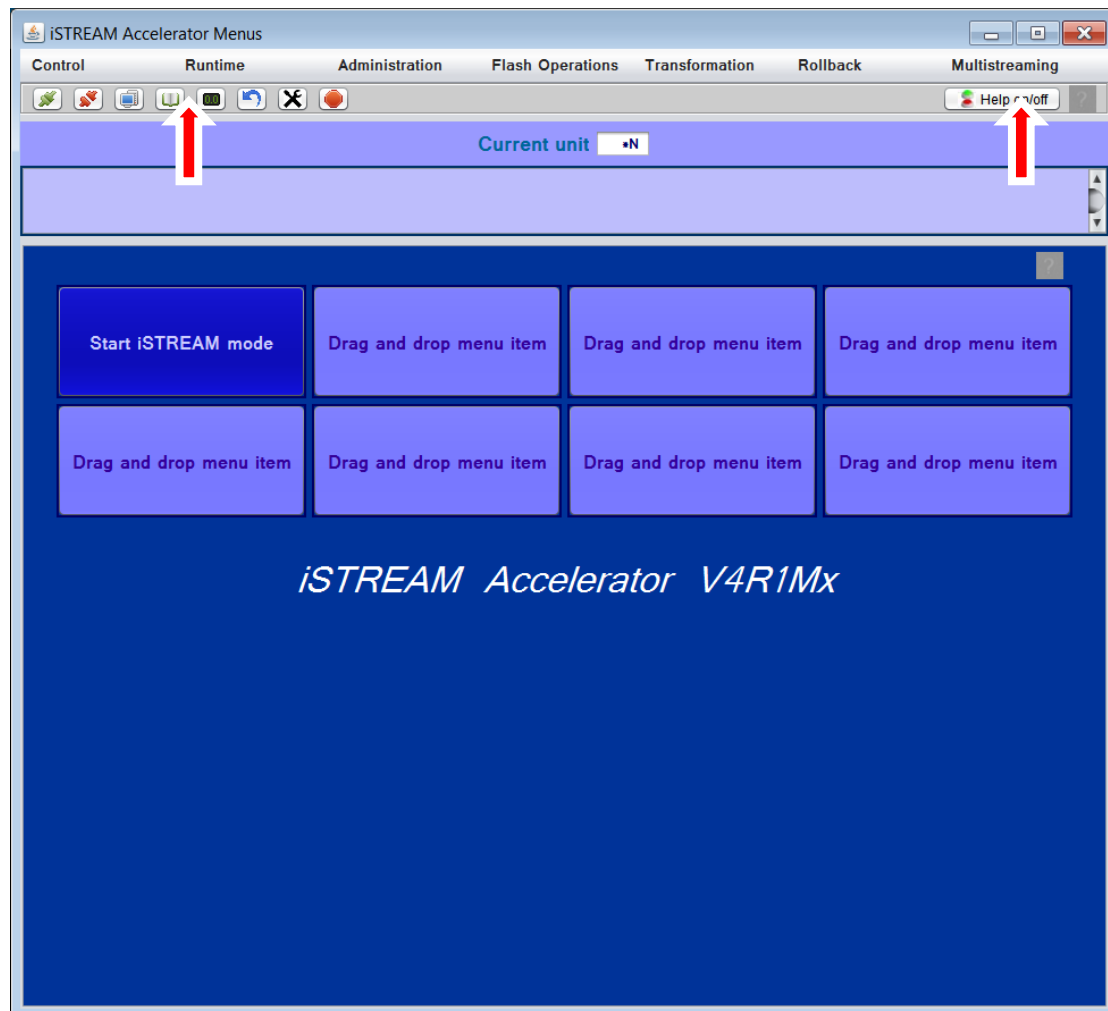
Special instructions should be read and followed before PTFs can be uploaded and installed.

A new PTF set can be slip-installed over the previous one. While multiple PTF sets can over time be copied to the User Data directory, the PTF Manager automatically selects the latest to work with.

All PTFs have cover letters that can be viewed using the IBM DSPPTF line command.

2.3 Accelerator

iSTREAM Accelerator is a GUI for iSTREAM functional options 1-4 (CCT and Multistreaming Toolkit). It mainly provides a simple front-end interface to IBM i server commands. The Accelerator window is illustrated by the following diagram.

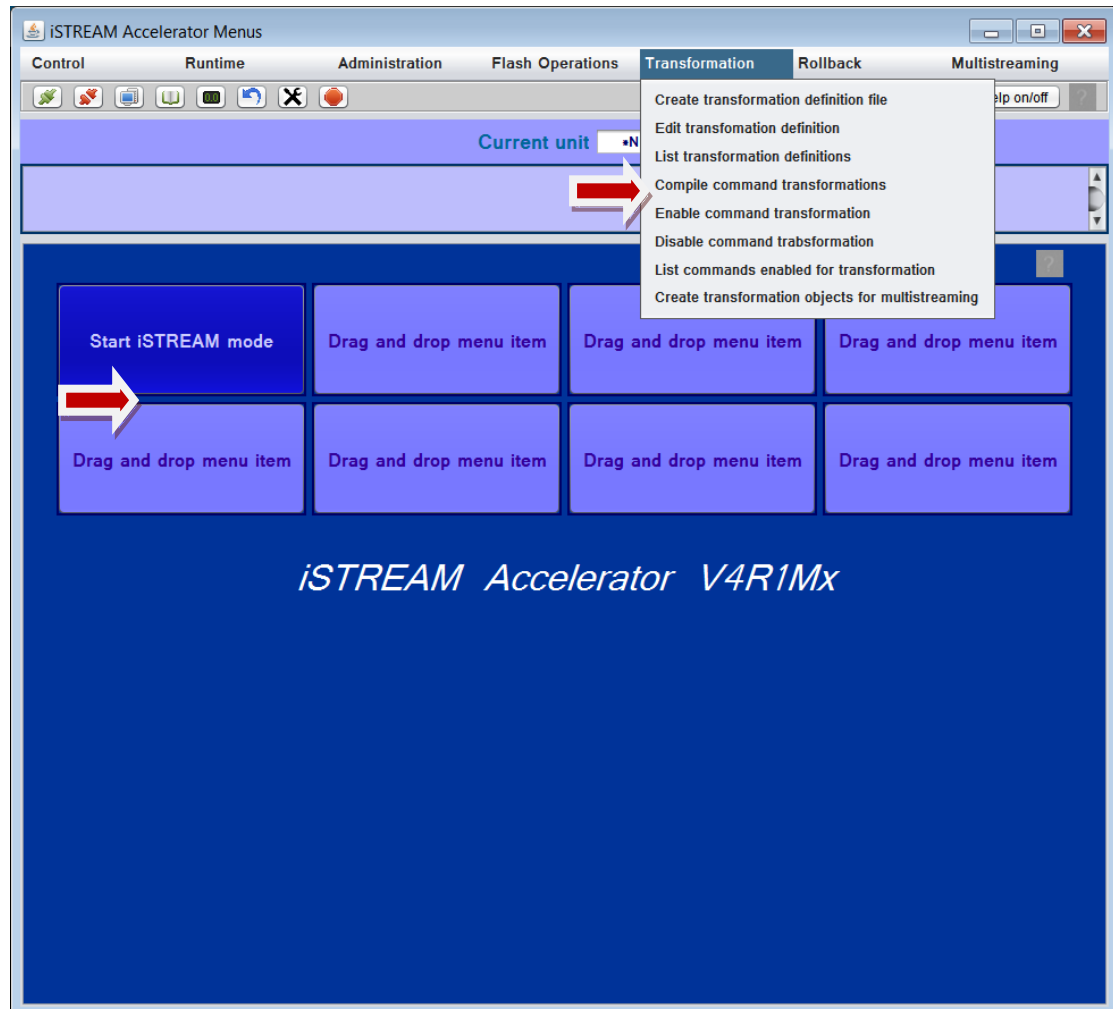


The Accelerator menus represented by the row of tabs loosely follow the structure of iSTREAM CCT and Multistreaming Toolkit menus of the iSTREAM 5250 interface. The row of controls immediately below it on the left represents shortcuts to the most frequently used functions, e.g. Start iSTREAM Mode, End iSTREAM Mode, Run Remote Command, Display Server Joblog, etc.

The Accelerator window is opened with the tooltip (help) text disabled. To enable it, the Help button on the right-hand side of the screen can be used. After that, hovering over any control would display the related help text.

It is also possible to define quick buttons for frequent user actions dragging any option of the menu to the related button area in the middle of the screen using the right button of the mouse.

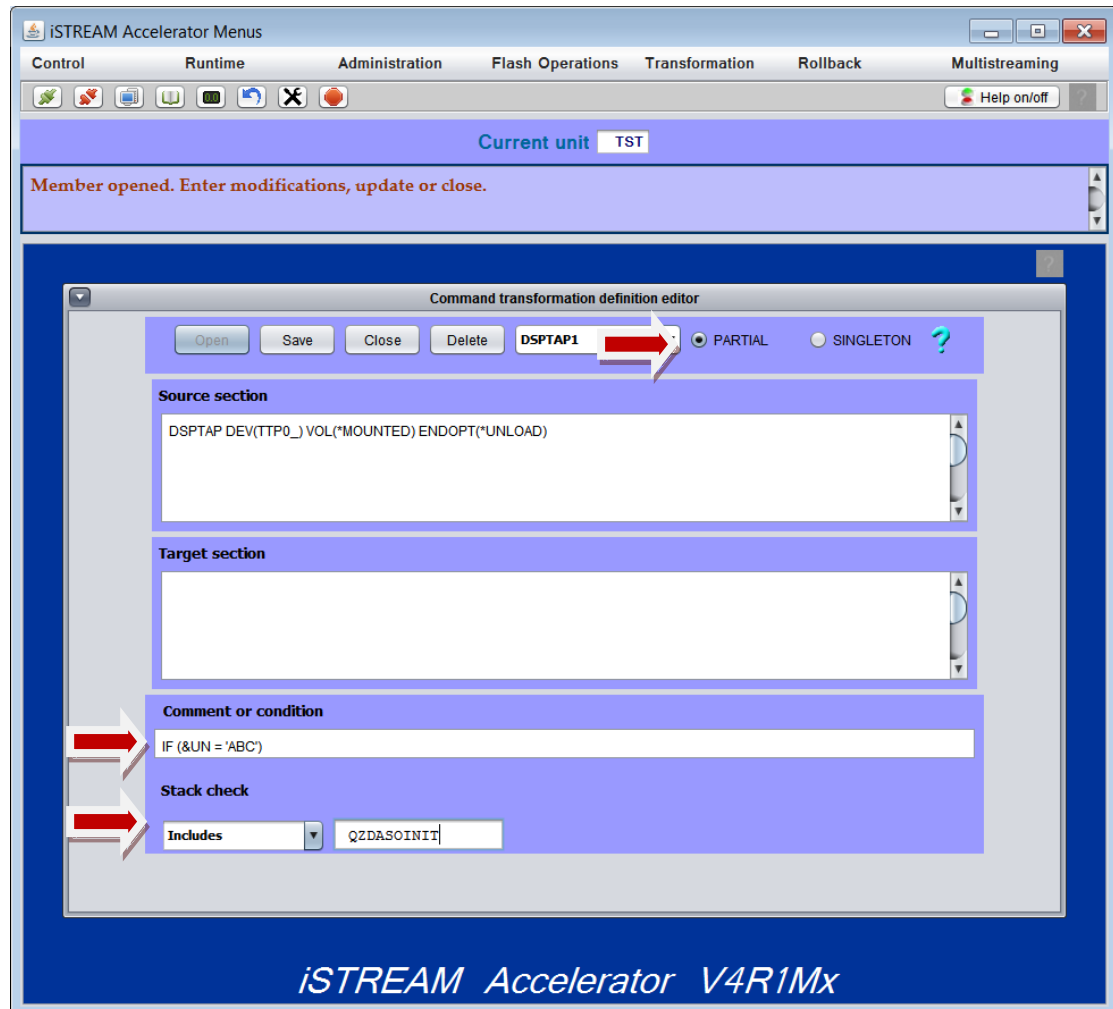
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Most of the controls from the drop-down tab lists cause straightforward execution of the related remote commands. There are, however, a few notable exceptions.

- *Save Unit Configuration, Restore Unit Configuration* and *Request Unit Service Dump* controls provide an option for saving and restoring the related file directly to and from the MS Windows disks.
- *Display Requests in Queue* pops up a service panel inside the Accelerator window containing the same information as the 5250 DSPFLSRQS command, but does not support either job actions or automatic screen refresh.
- *Edit Transformation Definition* control allows to create or modify an existing transformation definition using the front-end editor. An example of this is illustrated by the following diagram.

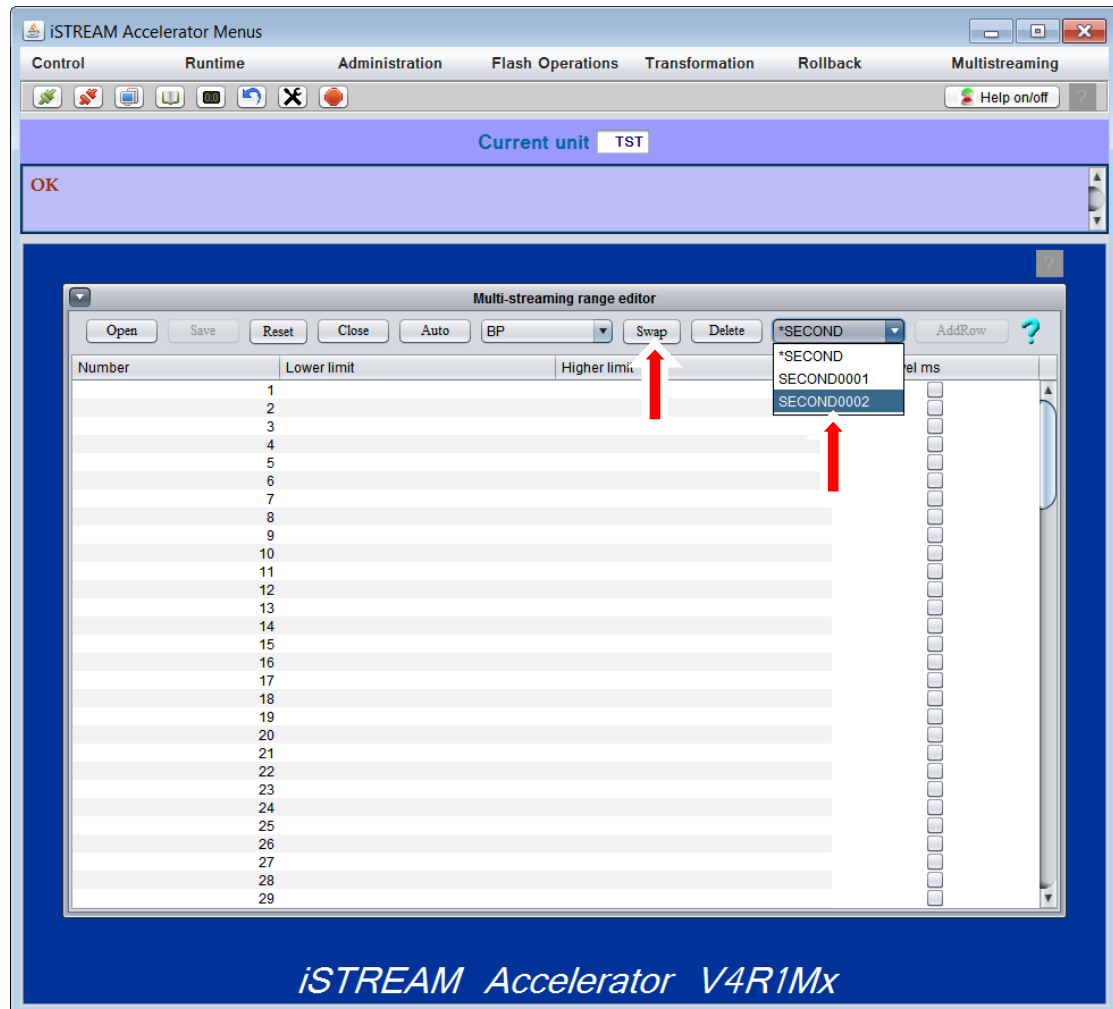
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The front-end editor provides higher-level capabilities than those of the equivalent 5250 interface. It can be especially useful with systems where SEU is not installed.

Define Split Ranges control also brings up a front-end editor. The use of this editor is illustrated by the following diagram. Functionally, the front-end editor is equivalent to the related 5250 interface. The former, however, is structured slightly differently, supporting a drop-down list of second-level specific breakdown members.

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2.4 Performance Investigator

This interface is described in the iSTREAM Performance Investigator manual.

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3. System requirements

iSTREAM Access for MS Windows is compatible with all versions of MS Windows starting from Windows 7 and requires Java version 12 or higher to be installed on the client.

iSTREAM Accelerator has a prerequisite of JRE 8.0_361.