

Team Services

Team Services is about collaboration and efficiency

GSW Team Services provides your mobile device users a breakthrough in telnet/SSH2 technology that shatters all prior usability and efficiency standards by allowing for unprecedented user collaboration and cutting the costs of hardware. The implications are enormous. GSW Team Services has the potential to radically transform the client/server applications universe from isolated and fragile sessions to the world of persistence and creative collaboration of empowered users.

Team Services furnishes your mobile device users with innovative session management tools that are initiated from the client. Team Services is fast and easy to use.

GSW Team Services empowers the mobile device users to share resources, transfer, swap, share and recover mobile device sessions from the mobile device! This provides your mobile device users the capability to quickly solve common mobile device session and device problems without having to perform administrative operations on the server or needing to involve Information Technology (IT) personnel.

- Empowers Mobile Device User – session management operations initiated from the mobile device. This is a breakthrough feature!
- No system administrator intervention required.
- Works with GSW and 3rd party clients.
- Incredible Features – Sharing, Swapping, Transfer and Recovery of sessions.
- Fast and Easy - No technical degree required and the fastest way to resume work.

Team members helping team members. Instead of purchasing multiple types of devices per user; or all high end devices for the occasional need for high end features, team members can maximize device utilization by quickly sharing or swapping devices without even having to log off or involving the system administrator.

Often user(s) needs to use a different or an additional device, while preserving their session. GSW Team Services Transfer, Swap and Share operations addresses this need.

- **Transfer** – Transfer (move) your session to another team member's device. Terminates the existing session on the second device when the transfer is complete.
- **Swap** – (Swap devices but keep your session) Transfer your session to another team member's device and at the same time Transfer their session to your device.
- **Share** – Two devices share the same session. Either device may be used within a single session. This is similar to the GSW Session Administrator Shadowing feature, except Share is initiated from the client. The Share Team Service can be used when a forklift operator has a vehicle mount device and also needs a wireless mobile device, both using the same session. It can also be used for

training and assistance. The range of possibilities for Team Service Share is so powerful it is limited only by your imagination.

Recover dropped sessions. It doesn't matter if the session is dropped due to battery failure, device destruction, network problems or simply because the user went out of range. With GSW, *the session is maintained on the server* and with Teams Services the session can be **recovered** from the same or ***another* team member's device**. Of course, you will resume work at the exact point where you were when the session dropped.

GSW Team Services increases productivity by allowing your team members to minimize down time when ordinary work flow interruptions occur and resume work with unmatched speed and ease.

Team Services General Operation

Overview

Team Services operations are straightforward to understand and use. Below is an overview for using GSW Team Services. In this document GSW Team Services is often abbreviated "TS".

The Team Services Transfer, Swap and Share operations requires the team member who originates the operation *first* communicate with the 2nd team member¹ in order to request that the 2nd team member put their device (session) in the proper Team Service Accept mode for the operation. The 2nd team member must affirm that they are willing to accept a Transfer, Swap or Share. This way the 2nd team member's session is not unknowingly altered without expressly consenting to the operation.

The 2nd team member initiates Team Services and enters the "Accept Mode" for the specific Team Service to consent to the operation. This is done by pressing the corresponding function key for the Team Service operation. Session Identification information is displayed and can be quickly communicated to the originating team member.

The originating team member then enters Team Services, selects the Team Service operation, identifies the 2nd team member's session and completes the operation.

The entire process can take less than 60 seconds.

In summary, the **Transfer**, **Swap** and **Share** Team Service operations each have an Accept Mode and a Team Services Operation.

The **Recover** Team Service does not have an Accept Mode. You could consider a suspended session as consenting by default.

The Transfer, Swap and Share Team Service general procedural flow is:

1. One team member (originator) requests a 2nd team member to participate in a Team Service operation.
2. The 2nd team member puts their session in Accept Mode for the Team Service operation.
3. Team member (originator) starts Team Service operation.
4. Team member (originator) identifies 2nd team member's session, selects and completes operation.

The Recover Team Service operation general procedural flow is:

5. Team member initiates the Team Service Recover option.
6. Team member identifies the suspended session, selects and completes operation.

¹ In some cases a single Team Member serves both roles as the originating team member and the 2nd team member.

Team Services state and status information is displayed in the Session Administrator. This allows the administrator to know which devices are sharing, waiting for Team Service Transfers, Swaps, Shares and etc. Please view page 31 for more information on the Session Administrator and Team Services.

Enter Team Services Tasks by typing *Ctrl-x* (see page 6 for more details) or the configured hot key. The Team Services Tasks menu is show below.

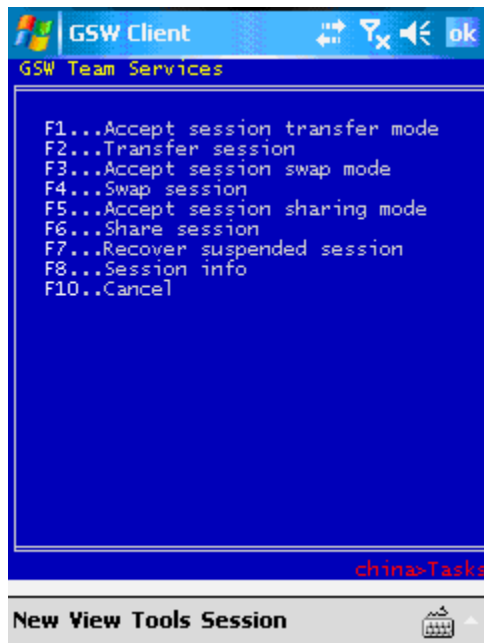
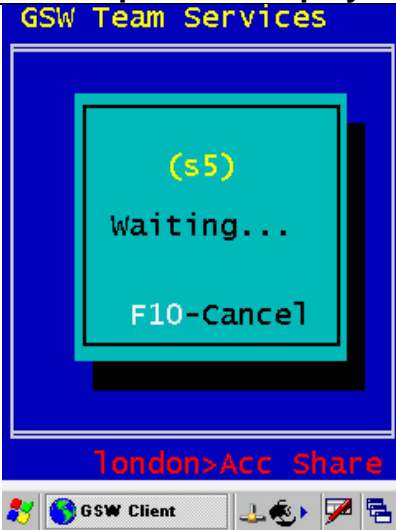
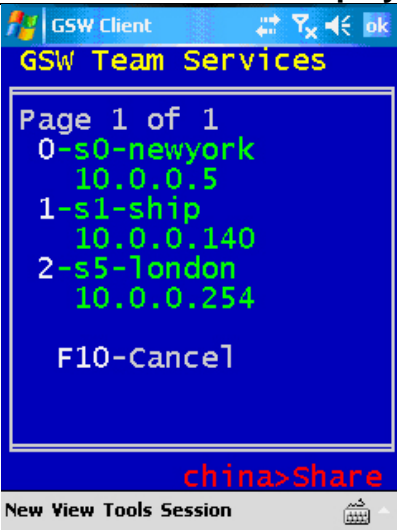


Figure 1: Team Services Tasks Menu

Each of the Team Service tasks is initiated by using a function key on the device. Team Service tasks that require an Accept mode use a pair of function keys, one for the *Accept* and the other for the *Team Service tasks*. When Accept Mode for a Team Service is performed, the client device display is similar to Figure 56.

Accept Mode Display		Session Selection Display
 <p>Figure 2: Accept Mode Display</p>	<p>On the left we see the display after a user has entered Accept Mode for Team Service Share. Note that the Session Id is s5.</p> <p>On the right we see the display after the Team Service operation Swap is entered. A list of all sessions available for a Swap is displayed.</p> <p>Note: Only sessions in Accept Swap mode are displayed. So there will be no confusion swapping with someone that did not consent to a swap.</p>	 <p>Figure 3: Session Selection Display</p>

The associated Team Service operation displays a list of sessions available for that operation similar to Figure 57. The session is selected for the operation by entering the displayed line number for that session. For example to swap with session s5 the user would enter a 2 since that is the line number for session s5.

The Transfer operation uses the F1 key for Transfer Accept Mode and the F2 key to perform the Transfer operation. The Swap operation uses the F3 key for the Swap Accept Mode and the F4 key for the Swap operation. The Share operation uses the F5 key for Accept Share Mode and the F6 key for the Share operation.

		2 nd Team Member	Originating Team Member
Team Services Operation	Description	Accept Mode	Operation
Transfer	Transfers your session to another device	F1	F2
Swap	Transfers your session to another device	F3	F4
	Transfers the other session to your device		
Share	One session is shared by two devices	F5	F6
Recover	Recovers a suspended session to your device	n/a	F7
My TS Info	Display Session ID, User Name, IP Address	n/a	F8
Reserved		n/a	F9
Cancel	Cancel Team Services Operation, Exit Menu	n/a	F10
Enter Team Services	Open Team Services Menu	Configurable hot key	

Table 1 - Teams Services Function Keys

A configurable hot key is used to enter GSW Team Services. The default hot key is *Ctrl-x*. When initiated, Team Services presents the user with a menu that is used to transfer a session, recover a session, swap sessions, share a session etc. Learn more about the configurable hot key on page 28.

Dynamic non-cryptic text abbreviations for small screens

Devices come with a variety of screen sizes offering large display areas on stationary or truck mount devices and smaller display areas on smaller hand held mobile devices. With GSW Team Services the text is automatically adjusted based on the number of columns and rows defined with the "Mode Con" command (page **Error! Bookmark not defined.**) in your logon script. If there are not enough columns to display the complete Team Service text then intelligent abbreviations are used so you can view the essential information in the *normal font for your application*.

This works well with the small hand held mobile device displays as well as the larger truck mount displays. No magnifying glass is required to read the text, nor do you have to be a detective to decipher the meaning of the abbreviations.

The three most used Team Services screens are:

- Team Services Main Menu
- Team Services "Accept Mode" Display
- Team Services "Select Session" Menu

Below is an example of the full text of the Team Services tasks menu on the left and the abbreviated text on the right. In order to maximize the readability alternate abbreviations are used based on the number of columns and rows defined.

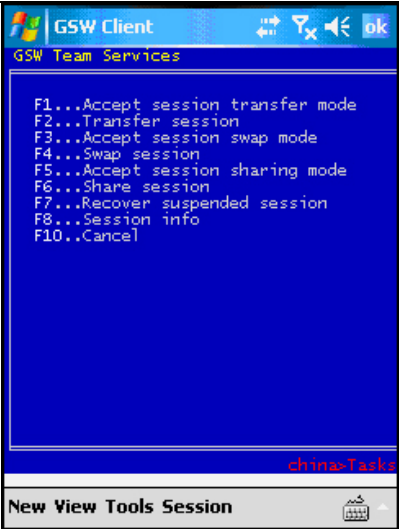

Team Services Main Menu		Abbreviated Team Services Tasks
	<p>Set the number of columns and rows for your application and GSW Team Services will display all the text or abbreviate it based on your configuration.</p>	

Table 2 - Team Services Tasks Menu Abbreviations

Note that "Accept" is abbreviated "Acc", and "transfer" uses the common abbreviation "xfer" while the words "session", "mode" and "suspended" are completely omitted.

Below is an example of the Team Services Accept Transfer mode display. The Accept modes for the other operations are similar. The unabbreviated version is on the left and the abbreviated version is on the right.



Accept Transfer Mode Display		Abbreviated Accept Transfer Mode Display
 <p>The screenshot shows a blue window titled "GSW Team Services". Inside, a cyan dialog box contains the text: "My session id is s5", "Waiting for transfer...", and "< F10-Cancel >". At the bottom of the window, a red status bar reads "London>Acc xfer". The Windows taskbar at the bottom shows the "GSW Client" icon and several other application icons.</p>	<p>An unabbreviated "Waiting for transfer" dialog is shown on the left.</p> <p>On the right is simply the session id (s5) and "Waiting..."</p>	 <p>The screenshot shows a blue window titled "GSW Team Services". Inside, a cyan dialog box contains the text: "(s5)", "Waiting...", and "F10-Cancel". At the bottom of the window, a red status bar reads "London>Acc xfer". The Windows taskbar at the bottom shows the "GSW Client" icon and several other application icons.</p>

Table 3 - Team Services Accept Mode Abbreviations

Note that the text "My session id is" and "for transfer" is omitted yet the essential session id (s5) is presented as well as the "Waiting..." text providing a reminder to the user.

The TS Select Session display is shown below.

There are a few items to note.

- If more than one page is required to display all the available sessions then the function key F2 is used to display the next page. F1 navigates to the previous page. This is true for both the abbreviated and unabbreviated lists.
- Each page has a Page x of y count display, where x is the page you are viewing and y is the total number of pages.
- On each page the line numbers corresponding to the session id are zero based. Below on page 1, line 0 corresponds to session id (s0). On page 2, line 0 corresponds to session id (s5).

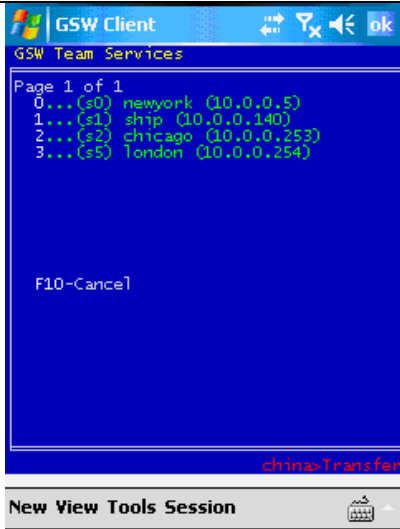
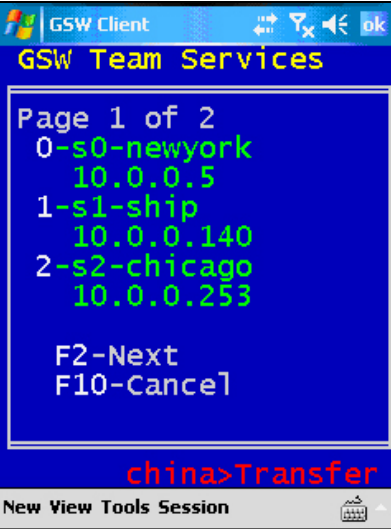
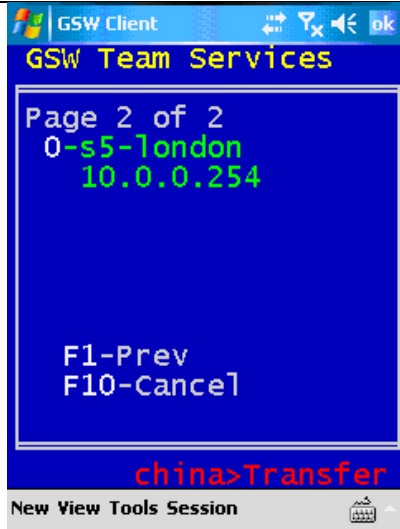
Accept Transfer Mode Display	Abbreviated Select Session Display	
 <p>Figure 4: Unabbreviated Select Session</p>	 <p>Figure 5: Abbreviated Select Session Page 1 of 2</p>	 <p>Figure 6: Abbreviated Select Session Page 2 of 2</p>

Table 4- Team Services - Select Session Display

Team Services Tasks

Transfer

The Team Services Transfer operation takes a session on one device and moves it to a 2nd device. It terminates the existing session on the 2nd device. The session will resume exactly where it was when the transfer occurred.

In the diagram below we have two people, Barry and Sam. Each has a session and a device. Sam is going to lunch and Barry wants to use Sam’s wireless mobile device to scan some items his truck mount device cannot reach. With TS Transfer, Barry can transfer his session to Sam’s device without even logging off.

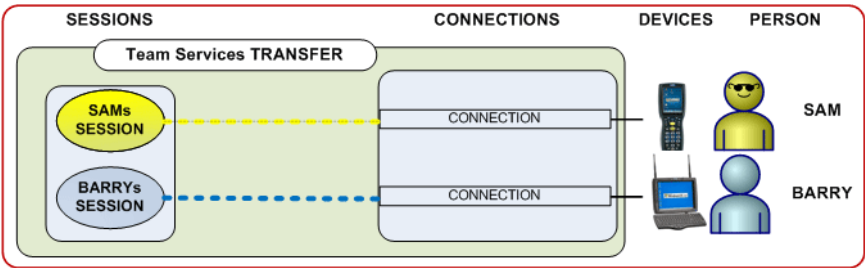


Figure 7: Before Team Service - TRANSFER

SAM		BARRY	
<p style="font-size: small;">Figure 8: Enters Team Services (Ctrl-x)</p>	<p style="font-size: small;">Figure 9: Accept Transfer Mode (F1). Note session id is s5</p>	<p style="font-size: small;">Figure 10: Enters Team Services (Ctrl-x) & presses F2</p>	<p style="font-size: small;">Figure 11: Session s5 is not listed on page 1 so Barry presses F2.</p>

Barry asks Sam if he can Transfer to his device. Sam consents and enters Team Services (Figure 62) and presses F1 to enter Accept Transfer mode. Sam's display shows he is session id "s5" (Figure 63).

Barry enters Team Services on his truck mount device (Figure 64) and presses F2 to initiate the Transfer operation. Figure 65 shows a list of sessions in Accept Transfer mode. Barry does not see session s5 so he presses F2 to go to the next page. Now he sees session s5 is listed by line number 0 (Figure 66). He presses 0 to complete the transfer to session s5. Sam's session is terminated and Barry's session is on Sam's mobile device and Barry can resume exactly where he left off.



Figure 12: Presses 0 to select session s5

The TS Transfer example is described below.

Notice that Barry is now on the mobile device and is still using his original session. He did not have to log off or get administrative assistance.

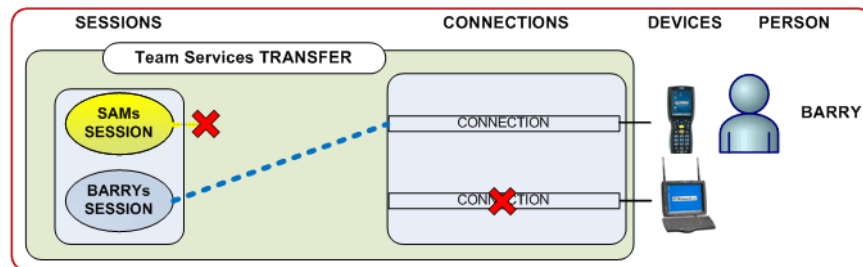


Figure 13: After Team Service - TRANSFER

The session Sam was using is terminated during the process, freeing Sam to take his lunch break.

Swap

The Team Services Swap operation takes two sessions on two devices and moves the session on the 1st device to the 2nd device and moves the session on the 2nd device to the 1st device. Each session is preserved and will resume exactly where it was when the swap occurred.

In the diagram below we have two people, Doug and Andy. Each has a session and a device. Doug wants to use Andy's wireless mobile device to scan some items his truck mount device cannot reach. Andy still needs to work but can finish his work with the truck mount. With TS Swap, Doug can transfer his session to Andy's device, while simultaneously transferring Andy's session to Doug's truck mount device. Both can continue their work in the application and not even have to log off.

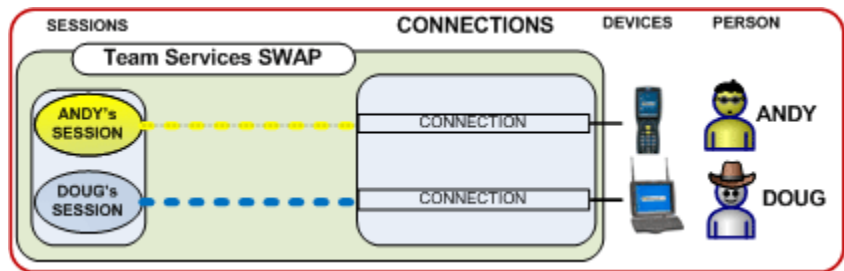


Figure 14: Before Team Service -SWAP

Doug asks Andy if they can Swap devices. Andy consents and enters Team Services and presses F3 to enter Accept Swap mode. Andy's display shows he is session id "s5" .

ANDY		DOUG	
Figure 15: Enter Team Services (Ctrl-x)	Figure 16: Accept Swap Mode (F3) Note the session id is s5	Figure 17: Enter Team Services (Ctrl-x) & press F4	Figure 18: Selects 2 to Swap with s5

Doug enters Team Services on his truck mount device and presses F4 to initiate the Swap operation. Figure 72 shows a list of sessions in Accept Swap mode. Doug sees s5 is listed by the number 2. He presses 2 to complete the swap with session s5. Andy's session is moved to the truck mount device and Doug's session is on the mobile device and both can resume exactly where he left off.

Notice in the following diagram that Doug is now using the mobile device yet he is still using his original session. Likewise Andy is now using the truck mount device and is still using his original session as well.

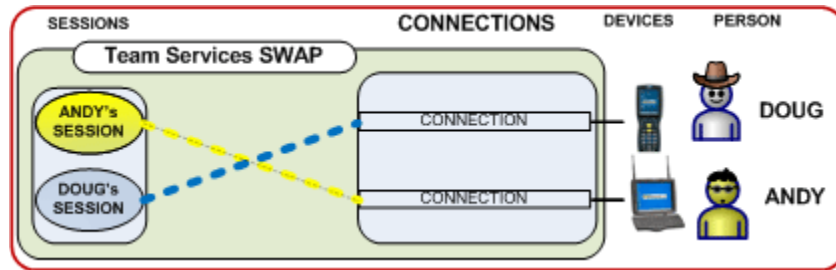


Figure 19: After Team Service - SWAP

If in Andy and Doug want their original devices back, they can just perform a TS Swap again!

Share

The Team Services Share operation allows two devices to share a single session. Input from either device is sent to the session. Output from the session is displayed on both devices. This is similar to the Session Administrator "Shadow" feature (page **Error! Bookmark not defined.**) but developed for Team Members.

This feature has several applications. One is to allow a single user to work with two devices in the same session. Another application is when one team member needs to help another team member. Share can also be used for quality control purposes. You may have ideas for your own environment.

In the diagram below we have two devices and one person - Tom. Tom's device is a truck mount device. He is the only one working in the warehouse today and *also* wants to have a wireless mobile device to scan items his truck mount device cannot reach. Tom needs all his work be in a single session and he does not want to log on and off each time he uses each device. Tom can use the TS Share feature and have two devices connected to a single session. With each scan he can use the most convenient device.

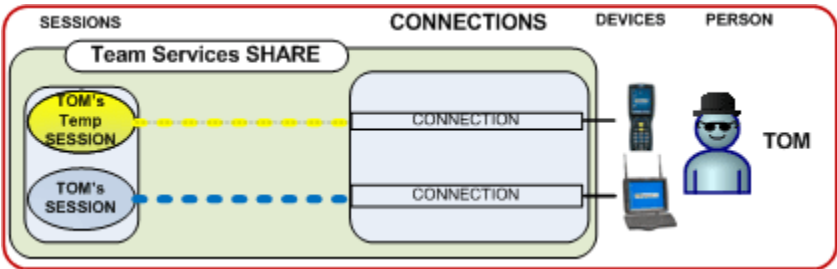
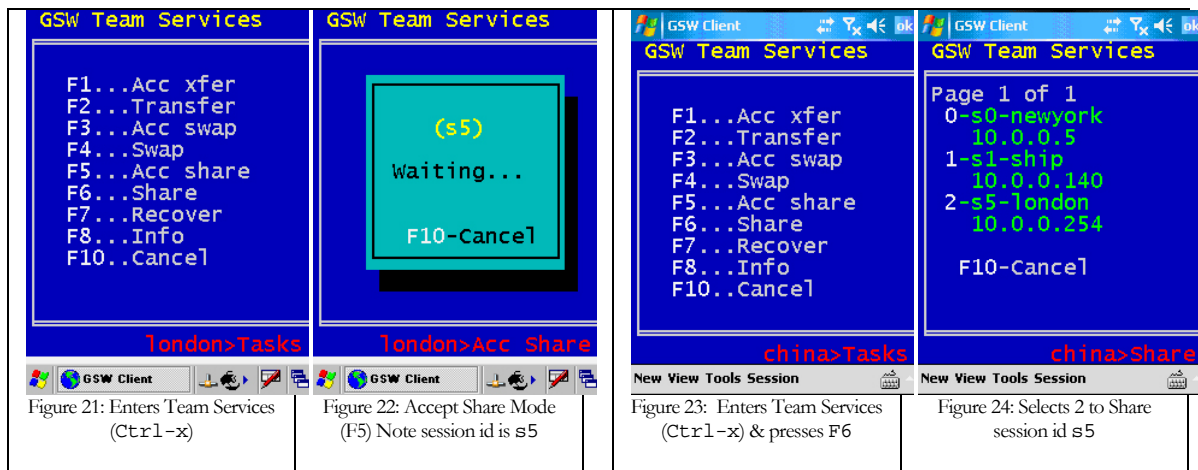


Figure 20: Before Team Service -SHARE

Tom obtains the wireless mobile device. He is already connected with his truck mount device. Tom wants to allow his truck mount device session to be *shared*. From the truck mount device he enters Team Services (Figure 75) and then initiates the task **Accept Share** by pressing **F5**. The truck mount device display shows his session id is "s5" and waiting for a partner(Figure 76).

Tom's Truck Mount Device	Wireless Mobile Device
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Tom takes the wireless mobile device and connects creating a temporary session. Tom enters Team Services on his wireless mobile device and presses **F6** to initiate the Share task (Figure 77). The list of sessions in Accept Share mode is shown (Figure 78). Tom sees **s5** is listed by the number 2. He presses **2** to join session **s5**. Tom's mobile device is now connected to the same session as the truck mount device. The result is shown in Figure 79.

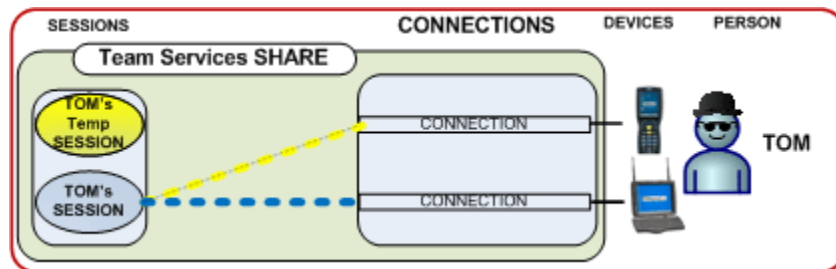


Figure 25: After Team Service - SHARE

Undo Share

Tom's original temporary session is maintained and he can return to it by *undoing* the share by pressing *control-x* from the wireless mobile device². The truck mount device continues in its session. This is shown in Figure 80.

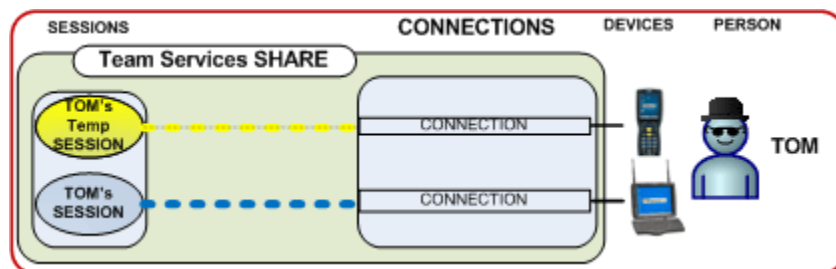


Figure 26: Undoing the Share

² Pressing control-x from the truck mount device does not undo TS Sharing.

This can be useful when a Team Member is working and needs to temporally join another team member's session (for assistance, support, quality assurance, etc.) and then needs to resume his work.

Note: If you **exit**³ the session (from either device) the truck mount session is closed and the mobile device is returned to its original session as shown below.

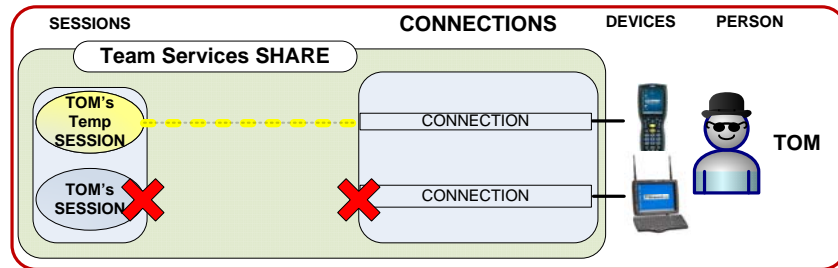


Figure 27: Exit typed in Share

³ Either by typing EXIT or any other means of closing the session.

Recover

The Team Services Recover operation allows a suspended session to be recovered to another device. This differs from the Session Saver Auto-Reconnect which allows the same device to recover a suspended session.

In the diagram below we have two devices and two team members. Amos is working, but laid his device down to look behind a crate. Barry, just learning to drive the fork lift, ran over Amos's device. Amos was in the middle of some critical work and cannot afford to lose his session. Team Services can Recover Amos's session to a different device.

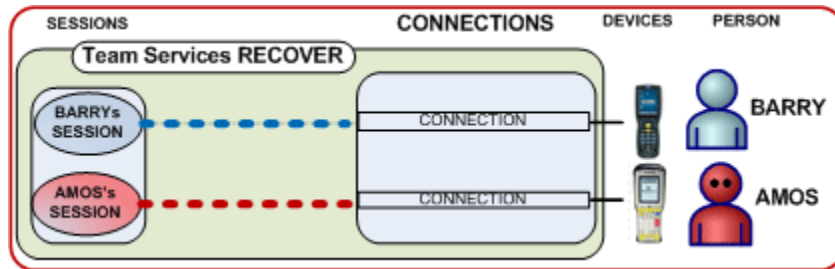


Figure 28: Before Team Service - RECOVER

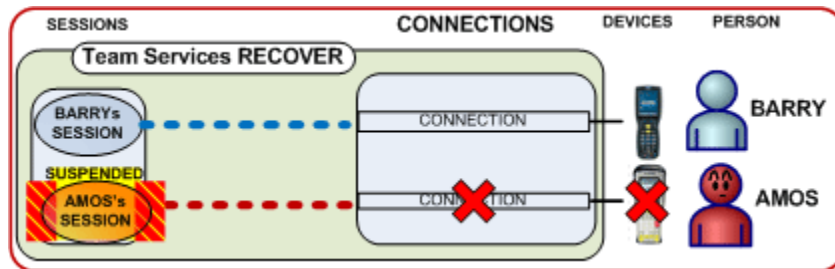

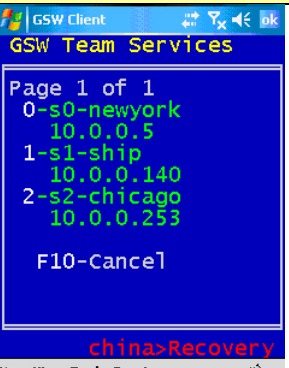


Figure 29: After Accident but before Team Service -RECOVER

After Amos's device is destroyed, his session is suspended but recoverable with TS. Barry has an extra wireless mobile device. Amos obtains the wireless mobile device. On the mobile device Amos enters Team Services Recover by pressing F7. The mobile device display shows a list of suspended sessions (Figure 85).

Wireless Mobile Device	
 <p>Figure 30: Enters Team Services (Ctrl-x)</p>	 <p>Figure 31: List of Suspended Sessions (F7) and select session.</p>

Amos is able to identify his session as s0 by the User Id and the IP Address. Amos presses number 0 to recover session 0 (s0). Amos can continue his work exactly where he left off.

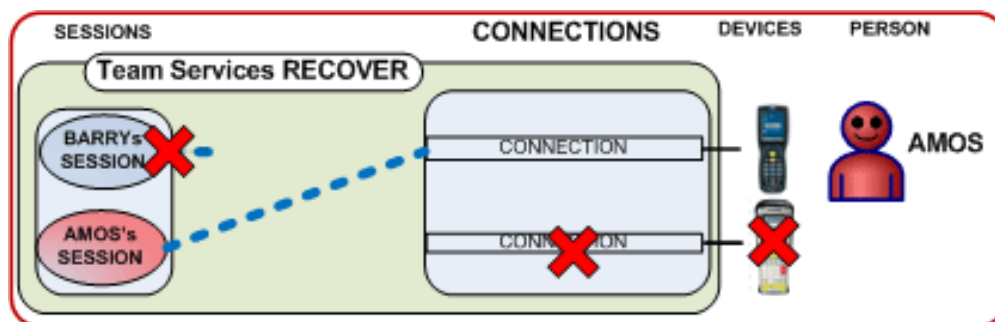


Figure 32: After Team Service - RECOVER

Session Information

Often it is useful to obtain Session Information about your current session. Team Services "Session Info" can be viewed using the F8 key.

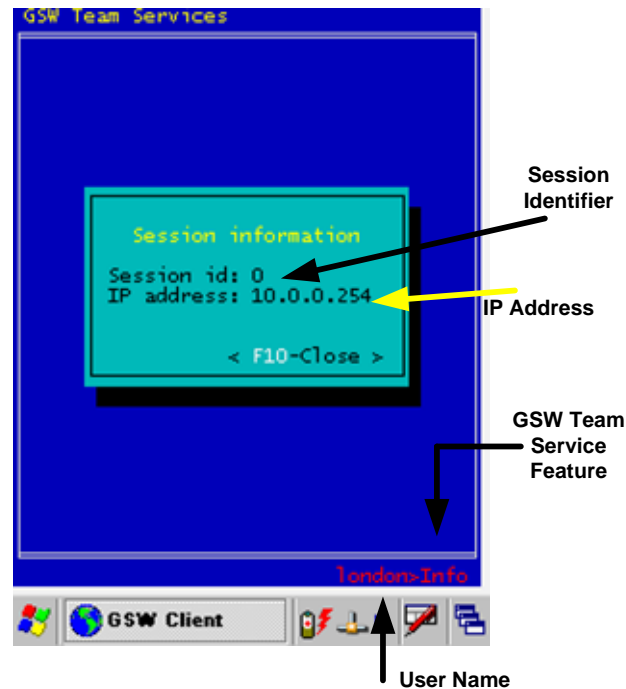


Figure 33: Team Services - Session Information

The session information displayed consists of:

- Session Id Number
The Session Id is a unique number assigned to the session by GSW Team Services.
- IP Address
The IP Address of the client device.
- User Id
The User Id is displayed in the bottom right corner of the screen. In Figure 87 the User Id is "London"

Open Team Services Tasks Menu

The GSW Team Services Tasks menu provides the user access to the Team Services operations.

Enter GSW Team Services by entering the hot key combination from the device. The default key combination is Ctrl-x. This can be changed to meet your requirements (see page 28). To enter the hot key - depress *Ctrl* then *x*, and then release the keys. The Team Services Tasks menu is displayed.

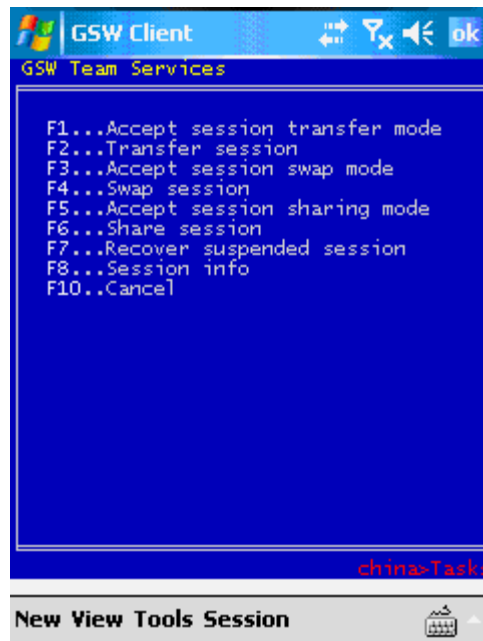


Figure 34: Team Services Tasks Menu

Function Key	Team Service Operation		
F1	Accept Transfer Mode		
F2		Transfer	
F3	Accept Swap Mode		
F4		Swap	
F5	Accept Share Mode		
F6		Share	
F7	Recover		
F8	My Team Service Information		
F9	Reserved for future use.		
F10	Cancel Team Service Operation		
Configured hot key	Opens Team Services Menu		

Table 5- Team Services Menu

Team Services Configuration and Security

In some environments it may not be appropriate for all users to have access to all GSW Team Services. The system administrator may configure the default access settings for each individual Team Service operation using Registry parameters.

NOTE: For new installations of the GSW UTS the Registry parameters enable all Team Services by default.

- For **upgrades** from a **pre-Team Services version** (pre v8.01) of the UTS, Team Services is disabled by default for security reasons⁴. You must enable Team Services for operation.

The registry key location is:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\GS_Tnet\Parameters\

The parameters, types and values are noted below:

Team Service	Registry Parameter	Type	Values
Transfer	TSEnableTransfer	DWORD	0=disable 1=enable
Swap	TSEnableSwap	DWORD	0=disable 1=enable
Share	TSEnableShare	DWORD	0=disable 1=enable
Recovery	TSEnableRecovery	DWORD	0=disable 1=enable
Other Team Service Configuration			
	TSHotKeyCtrl	DWORD	0=disable 1=enable
Enter TS hot key	TSHotKeyVK	DWORD	See Section on page 28
Left Justify TS Dialog/Text	TSLeftJustify	DWORD	0=disable 1=enable

Table 6 - Team Services Registry Parameters Sizes and Values

These default settings can be overridden using environment variables in global or per user logon scripts.

For example you may want to have Team Services disabled except for certain users. This can be accomplished by disabling each Team Service with Registry parameters and then overriding them for specific users in their logon scripts.

⁴ Team Services can allow Team Members to observe other Team Members Sessions (eg: Share).

The environment variables for Team Services are shown below.

Team Service	Environment Variable	Values
Transfer	gwn_ts_enable_transfer	'Y' or 'N', or 'y' or 'n'
Swap	gwn_ts_enable_swap	'Y' or 'N', or 'y' or 'n'
Share	gwn_ts_enable_share	'Y' or 'N', or 'y' or 'n'
Recovery	gwn_ts_enable_recovery	'Y' or 'N', or 'y' or 'n'
Other Team Service Configuration		
Enter TS hot key		
Left Justify TS Dialog/Text	gwn_ts_left_justify	'Y' or 'N', or 'y' or 'n'

Table 7 - Team Services Environment Variables

Team Services Recovery

Team Services Recovery works together with Session Saver and thus Session Saver must be configured for Team Services Recovery to operate.

The variable `TSEnableRecovery` is a registry key value. This registry key sets the default behavior for all users.

0 disables Team Services Recovery for all users.

1 enables Team Services Recovery for all users.

The key is: `TSEnableRecovery` DWORD

`HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\GS_Tnet\Parameters\TSEnableRecovery`

An environment variable may be set on either a Global or Per User basis to **override** the default configuration specified by the Registry parameters described above.

The environment variable for Team Services Recovery is:

`gwn_ts_enable_recovery`

Possible values are Y (or 'N', or 'y' or 'n')

This allows you to have a set of users that can have different Team Services privileges than specified in the Registry key value.

NOTE: No spaces are allowed when setting environment variables.

For example: To enable Team Services Recovery the following line should be present in the user's logon script.

set gwtn_ts_enable_recovery=Y is correct

set gwtn_ts_enable_recovery = Y is not correct

Team Services Transfer

The variable `TSEnableTransfer` is a registry key value. This registry key sets the default behavior for all users.

0 disables Team Services Transfer for all users.

1 enables Team Services Transfer for all users.

The key is: `TSEnableTransfer` `DWORD`

`HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\GS_Tnet\Parameters\TSEnableTransfer`

An environment variable may be set on either a Global or Per User basis to **override** the default configuration specified by the Registry parameters described above.

The environment variable for Team Services Transfer is:

`gwtn_ts_enable_transfer`

Possible values are Y (or 'N', or 'y' or 'n')

This allows you to have a set of users that can have different Team Services privileges than specified in the Registry key value.

NOTE: No spaces are allowed when setting environment variables.

For example: To enable Team Services Transfer the following line should be present in the user's logon script.

`set gwtn_ts_enable_transfer=Y` is correct

`set gwtn_ts_enable_transfer = Y` is not correct

Team Services Swap

The variable `TSEnableSwap` is a registry key value. This registry key sets the default behavior for all users.

0 disables Team Services Swap for all users.

1 enables Team Services Swap for all users.

The key is: `TSEnableSwap` `DWORD`

`HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\GS_Tnet\Parameters\TSEnableSwap`

An environment variable may be set on either a Global or Per User basis to **override** the default configuration specified by the Registry parameters described above.

The environment variable for Team Services Swap is:

`gwtn_ts_enable_swap`

Possible values are Y (or 'N', or 'y' or 'n')

This allows you to have a set of users that can have different Team Services privileges than specified in the Registry key value.

NOTE: No spaces are allowed when setting environment variables.

For example: To enable Team Services Swap the following line should be present in the user's logon script.

`set gwtn_ts_enable_swap=Y` is correct

`set gwtn_ts_enable_swap = Y` is not correct

Team Services Share

The variable `TSEnableShare` is a registry key value. This registry key sets the default behavior for all users.

0 disables Team Services Share for all users.

1 enables Team Services Share for all users.

The key is: `TSEnableShare` `DWORD`

`HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\GS_Tnet\Parameters\TSEnableShare`

An environment variable may be set on either a Global or Per User basis to **override** the default configuration specified by the Registry parameters described above.

The environment variable for Team Services Share is:

`gwtn_ts_enable_share`

Possible values are Y (or 'N', or 'y' or 'n')

This allows you to have a set of users that can have different Team Services privileges than specified in the Registry key value.

NOTE: No spaces are allowed when setting environment variables.

For example: To enable Team Services Share the following line should be present in the user's logon script.

`set gwtn_ts_enable_share=Y` is correct

`set gwtn_ts_enable_share = Y` is not correct

Team Services Left Justify

Team Services Left Justify specifies the placement of the Team Services dialog information. If you are not using the "mode con" command you may see some screens displayed with part of the information hidden as show in Figure 89. This can be corrected using Left Justify as shown in Figure 90.

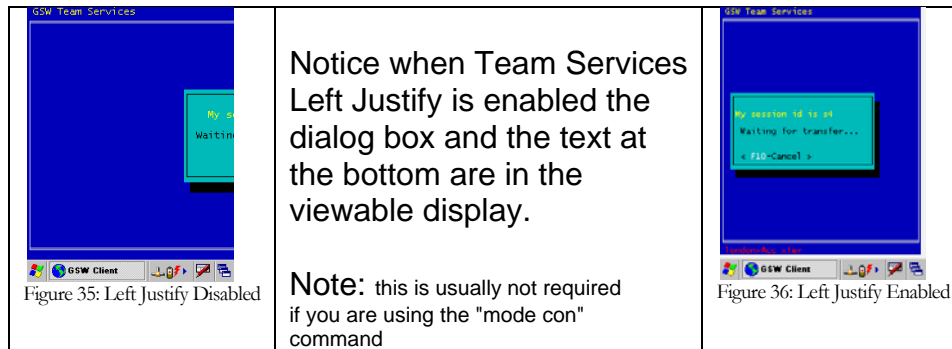


Table 8 - Team Services Left Justify

The variable `TSLeftJustify` is a registry key value. This registry key sets the default behavior for all users.

- 0 disables Team Services Left Justification for all users.
- 1 enables Team Services Left Justification for all users.

The key is: `TSLeftJustify` DWORD

`HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\GS_Tnet\Parameters\TSLeftJustify`

An environment variable may be set on either a Global or Per User basis to **override** the default configuration specified by the Registry parameters described above.

The environment variable for Team Services Left Justify is:

`gwtn_ts_left_justify`

Possible values are Y (or 'N', or 'y' or 'n')

This allows you to have a set of users that can have different Team Services privileges than specified in the Registry key value.

NOTE: No spaces are allowed when setting environment variables.

For example: To enable Team Services Share the following line should be present in the user's logon script.

```
set gwtn_ts_left_justify=Y is correct
set gwtn_ts_left_justify = Y is not correct
```

Team Services HOT KEY

The Team Services menu is entered by a hot key sequence. The default Team Services hot key sequence is `Ctrl-x`, that is, depress *Ctrl* then *x*; and then release the keys.

Both elements in the sequence are configurable because your application may already have `Ctrl-x` defined or there may be a more convenient key or key sequence for your environment.

TSHotKeyCtrl

You can configure the TS hot key sequence to use the control key or not use the control key.

The variable `TSHotKeyCtrl` is a registry key value. This registry key sets the default behavior for all users.

0 disables the requirement for the `CTRL` key to be pressed to activate the TS Menu.

1 enables the requirement for the `CTRL` key to be pressed to activate the TS Menu.
(default)

The key is: `TSHotKeyCtrl` `DWORD`

`HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\GS_Tnet\Parameters\TSHotKeyCtrl`

TSHotKeyVK

You can configure the TS hot key sequence to use a different key instead of *x*. The *x* is represented in our settings by its virtual key code and the common values are listed in the tables below. The values in the table are specified in hexadecimal. In the registry editor when entering a value for `TSHotKeyVK` be sure that the base is set to hexadecimal.

The variable `TSHotKeyVK` is a registry key value. This registry key sets the default behavior for all users.

The key is: TSHotKeyVK DWORD

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\GS_Tnet\Parameters\TSHotKeyVK

Default Value: 0x58

Virtual Key	Code	Virtual Key	Code	Virtual Key	Code	Virtual Key	Code
VK_SPACE	0x20	VK_0	0x30	VK_A	0x41	VK_N	0x4E
VK_PRIOR	0x21	VK_1	0x31	VK_B	0x42	VK_O	0x4F
VK_NEXT	0x22	VK_2	0x32	VK_C	0x43	VK_P	0x50
VK_END	0x23	VK_3	0x33	VK_D	0x44	VK_Q	0x51
VK_HOME	0x24	VK_4	0x34	VK_E	0x45	VK_R	0x52
VK_LEFT	0x25	VK_5	0x35	VK_F	0x46	VK_S	0x53
VK_UP	0x26	VK_6	0x36	VK_G	0x47	VK_T	0x54
VK_RIGHT	0x27	VK_7	0x37	VK_H	0x48	VK_U	0x55
VK_DOWN	0x28	VK_8	0x38	VK_I	0x49	VK_V	0x56
		VK_9	0x39	VK_J	0x4A	VK_W	0x57
				VK_K	0x4B	VK_X	0x58
				VK_L	0x4C	VK_Y	0x59
				VK_M	0x4D	VK_Z	0x5A

Table 9 - Virtual Key Codes

Virtual Key	Code	Virtual Key	Code
VK_NUMPAD0	0x60	VK_F1	0x70
VK_NUMPAD1	0x61	VK_F2	0x71
VK_NUMPAD2	0x62	VK_F3	0x72
VK_NUMPAD3	0x63	VK_F4	0x73
VK_NUMPAD4	0x64	VK_F5	0x74
VK_NUMPAD5	0x65	VK_F6	0x75
VK_NUMPAD6	0x66	VK_F7	0x76
VK_NUMPAD7	0x67	VK_F8	0x77
VK_NUMPAD8	0x68	VK_F9	0x78
VK_NUMPAD9	0x69	VK_F10	0x79
VK_MULTIPLY	0x6A	VK_F11	0x7A
VK_ADD	0x6B	VK_F12	0x7B
	0x6C	VK_F13	0x7C
VK_SUBTRACT	0x6D	VK_F14	0x7D
VK_DECIMAL	0x6E	VK_F15	0x7E
VK_DIVIDE	0x6F	VK_F16	0x7F
		VK_F17	0x80
		VK_F18	0x81
		VK_F19	0x82
		VK_F20	0x83
		VK_F21	0x84
		VK_F22	0x85
		VK_F23	0x86
		VK_F24	0x87

Table 10 - Virtual Key Codes - continued

Session Administrator support for Team Services

Session Administrator support Team Services - States
Team Services status and state information is available in the GSW Session Administrator. The last column in the Session Administrator is labeled **TeamS** for Team Services.

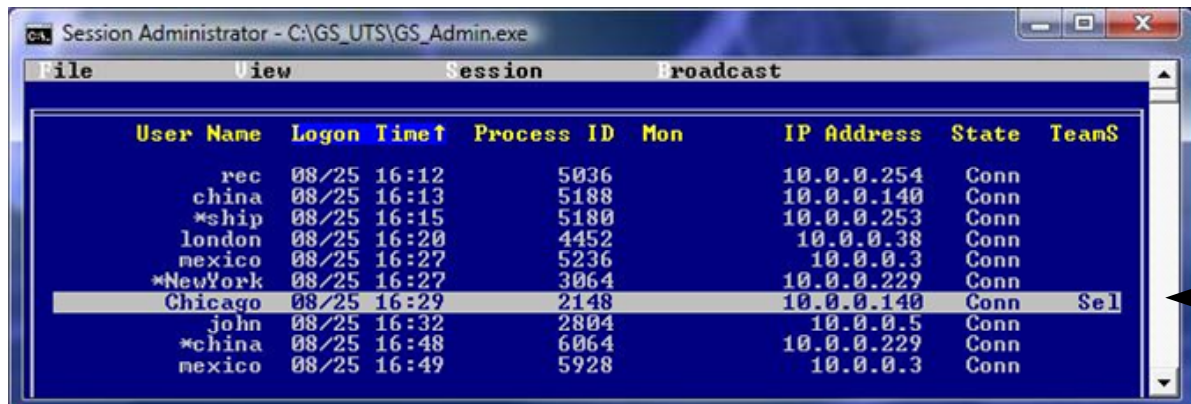


Figure 37: Team Services - Session Administrator

The TeamS column indicates the state or status of the session. Below are the various states and their descriptions.

State	Description	Reason
Sel	User is in the Team Services Menu	hotkey
AXfer	User has consented to Accept a Transfer	F1
Xfer	User is selecting the session for Transfer	F2
ASwap	User has consented to Accept a Swap	F3
Swap	User is selecting a session to Swap	F4
AShr	User has consented to Accept a Share	F5
Shr	User is selecting a session to partner	F6
Shr!	The originator of a TS Share	(session is shared) ⁵
Recov	User is selecting a session to Recover	F7

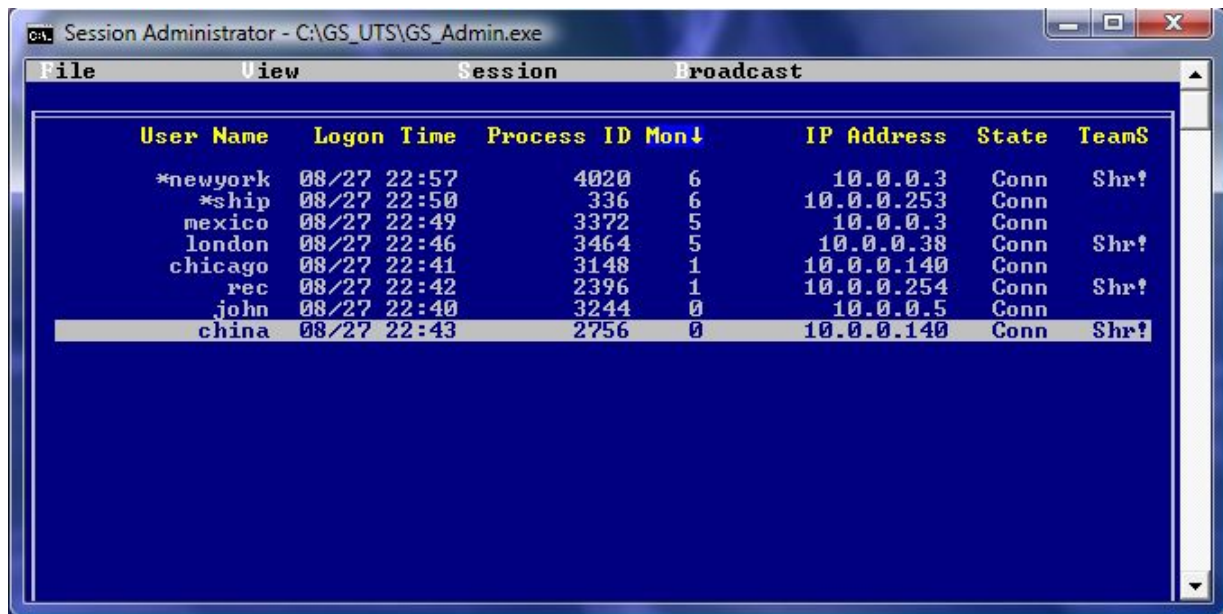
Table 11 - Team Services State Table

The System Administrator can view the states of sessions as Team Service operations are occurring.

⁵ You can view the partner session in the Session Administrator by sorting on the Monitor ID

System Administrator support for Team Services - Share

When sessions are shared by Team Services the TeamS column and the Mon column are of interest. The partnered (or shared) sessions will have the same Monitor ID. The TeamS state of one session will be blank and the other will show Shr! The session showing Shr! is the originating Team Service session (the one that performed the F6) and the blank state is the session that performed the Accept Share (F5).



User Name	Logon Time	Process ID	Mon↓	IP Address	State	TeamS
*newyork	08/27 22:57	4020	6	10.0.0.3	Conn	Shr!
*ship	08/27 22:50	336	6	10.0.0.253	Conn	
mexico	08/27 22:49	3372	5	10.0.0.3	Conn	
london	08/27 22:46	3464	5	10.0.0.38	Conn	Shr!
chicago	08/27 22:41	3148	1	10.0.0.140	Conn	
rec	08/27 22:42	2396	1	10.0.0.254	Conn	Shr!
john	08/27 22:40	3244	0	10.0.0.5	Conn	
china	08/27 22:43	2756	0	10.0.0.140	Conn	Shr!

Figure 38: Team Services Session Administrator - SHARE

The Session Administrator may not have both partners of the share next to each other like in the figure above. However you can sort by Monitor ID as show below which will group partners.

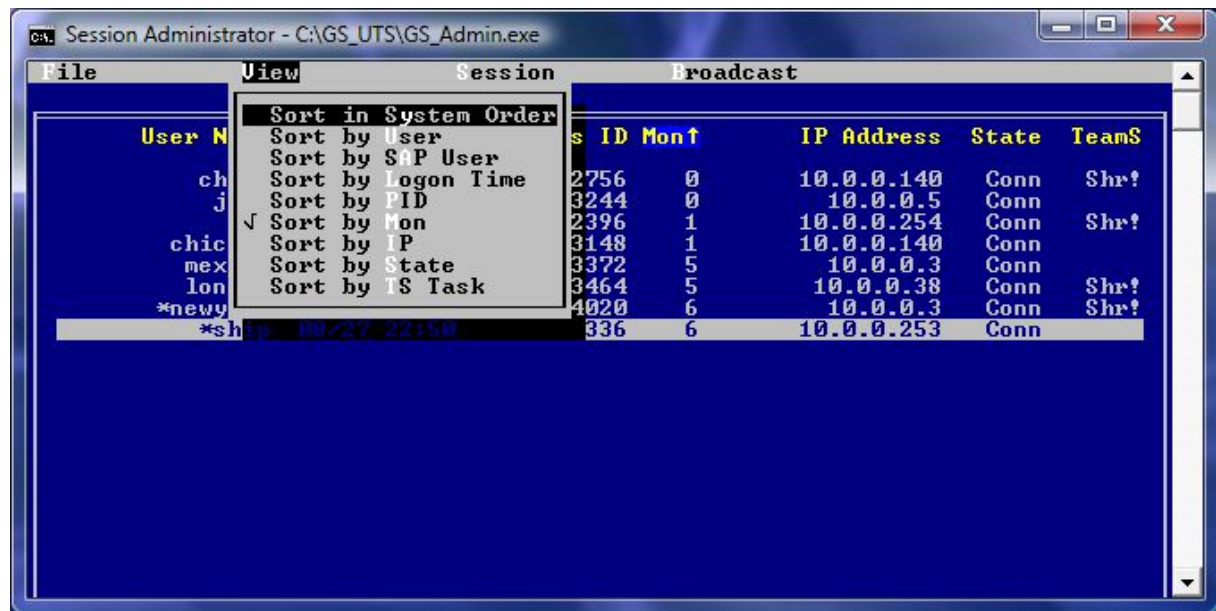


Figure 39: Team Services Session Administrator - Sort

Team Services Troubleshooting

There are just a few items to note when troubleshooting Team Services.

- When you are performing Team Services Transfer, Swap or Share and you are in the menu where you select the session - Only sessions in the appropriate Accept Mode are displayed. For example, for Transfer, only sessions in Accept Transfer Mode are displayed. For Swap, only sessions in Accept Swap Mode are displayed, etc.
- When you are performing Team Services Recover and you are in the menu where you select the session to recover - Only suspended sessions are displayed.
- Check that the Team Services Registry settings are correct.
- Check that the logon script's Team Service environment variables are correct.

There are some session configuration items that must be the same for sessions participating in Team Services.

- The SSH settings must be the same (SSH in use or not in use)
- GSW Encryption settings must be the same (GSW Encryption in use or not in use)
- FIPS settings must be the same (FIPS in use or FIPS not in use)

Additionally, some configuration items and/or requirements for sessions participating in *specific* Team Services operations are:

Recovery

- Session Saver must be configured (page **Error! Bookmark not defined.**)
- Session must be in suspended state
- Client types must match (GSW or 3rd Party)
- Unicode Settings must match

Transfer

- Session must be in Accept Transfer mode
- Client types must match (GSW or 3rd Party)
- Unicode Settings must match

Share

- Session must be in Accept Share mode
- Session must not already be monitored or shared

Swap

- Session must be in Accept Swap mode
- Client types must match (GSW or 3rd Party)
- Unicode Settings must match

A quick way for the System Administrator to identify the Client, Unicode and SSH settings for a given session is to use the Session Administrator. Select the session and then use the menu item Session->Details. You will see a display similar to the one below.

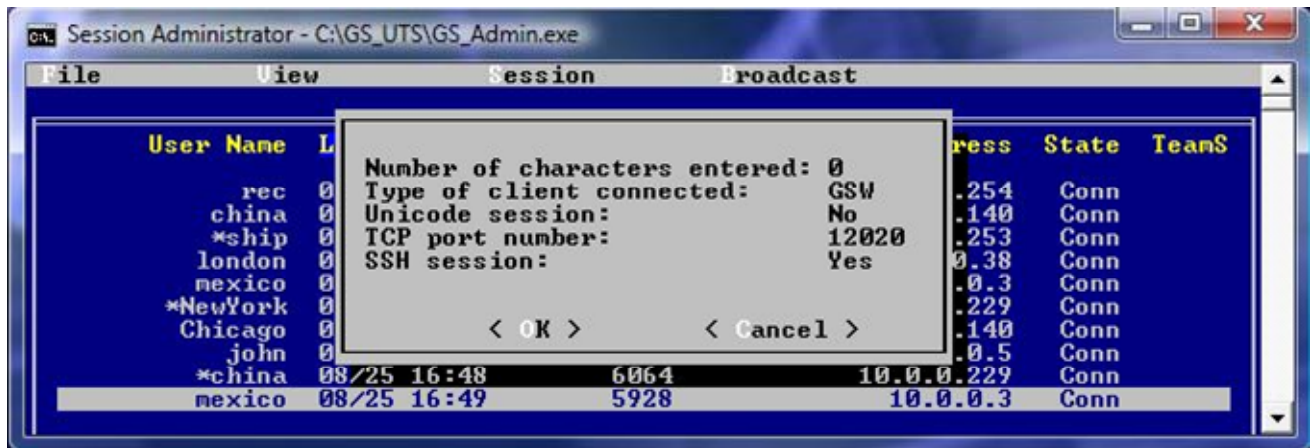


Figure 40: Team Services - Session Details

You can identify if a client is a GSW FIPS session by the '*' prepended to the User Name in the User name column.