SWSI/DAS Ops Concept

User/Client Interface:
The main control panel would look similar to the current design except with an added SWSI/DAS interface (SDIF) connection indicator. The main menu will be modified and re-arranged to accommodate the DAS options. Figure 1 shows how the main menu and submenu options might get laid out. The NCC and DAS menu options are submenu titles giving access to NCC and DAS specific capabilities.

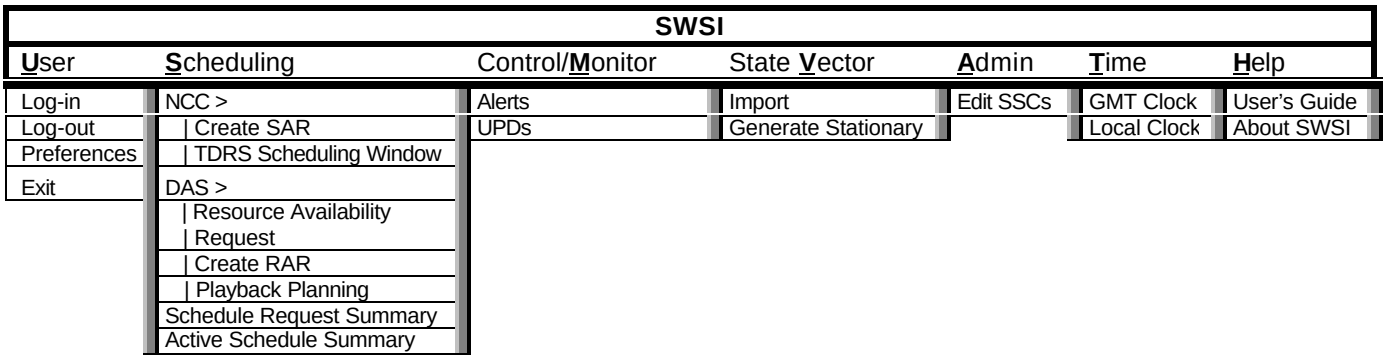

Figure 1 – Main Control Panel Menu with Submenus

The DAS specific options would only be available if the user is flagged as a DAS user in the SWSI database (i.e., the menu options will be disabled for non-DAS users). Likewise, a similar flag and restrictions would exist for NCC capabilities. This would allow a user to be strictly a NCC user, DAS user, or a combination of both. Finally, the Admin options would only be available if the user is flagged as a DAS mission administrator in the SWSI database.

All times entered or display will be in GMT as year, day of year, hours, minutes, and seconds in the form yyyydddhhmmss.

When a new SIC (or mission) is added (and that mission is supported by DAS), a set of 10 SSCs will be created for that SIC. These SSCs will contain default values until a user updates them. A user can change these, but cannot add or delete them. Selecting the Edit SSCs from the Main Control Panel Menu would result in a menu from which the user could choose to edit an existing SSC. Figure 2 shows this menu. When this menu is brought up, the Client Application signals the Isolator to lock the SICs/SSCs that this user is allowed to edit. When this panel is closed the Isolator is signaled to unlock the SICs/SSCs.

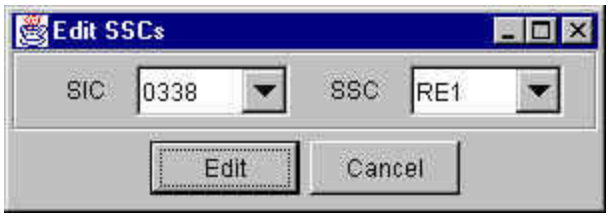

Figure 2 – SSC Editing Menu

First the user would select a SIC. The list of SICs available would be only those for which the user was flagged as having mission admin privileges. Then, based on the chosen SIC, the user could select an existing SSC to modify (The SSC selection would be disabled until a SIC is selected).

Once a SSC has been selected or entered, and 'Edit' is pressed, a ServiceParmWindow (shown in Figures 3 and 4) would be generated allowing the user to modify values of an existing SSC. There may be a delay while the client retrieves the latest SSC values. When the user selects 'Submit' in the ServiceParmWindow, these values would be sent to the Isolator to be stored in the database as the selected SSC.

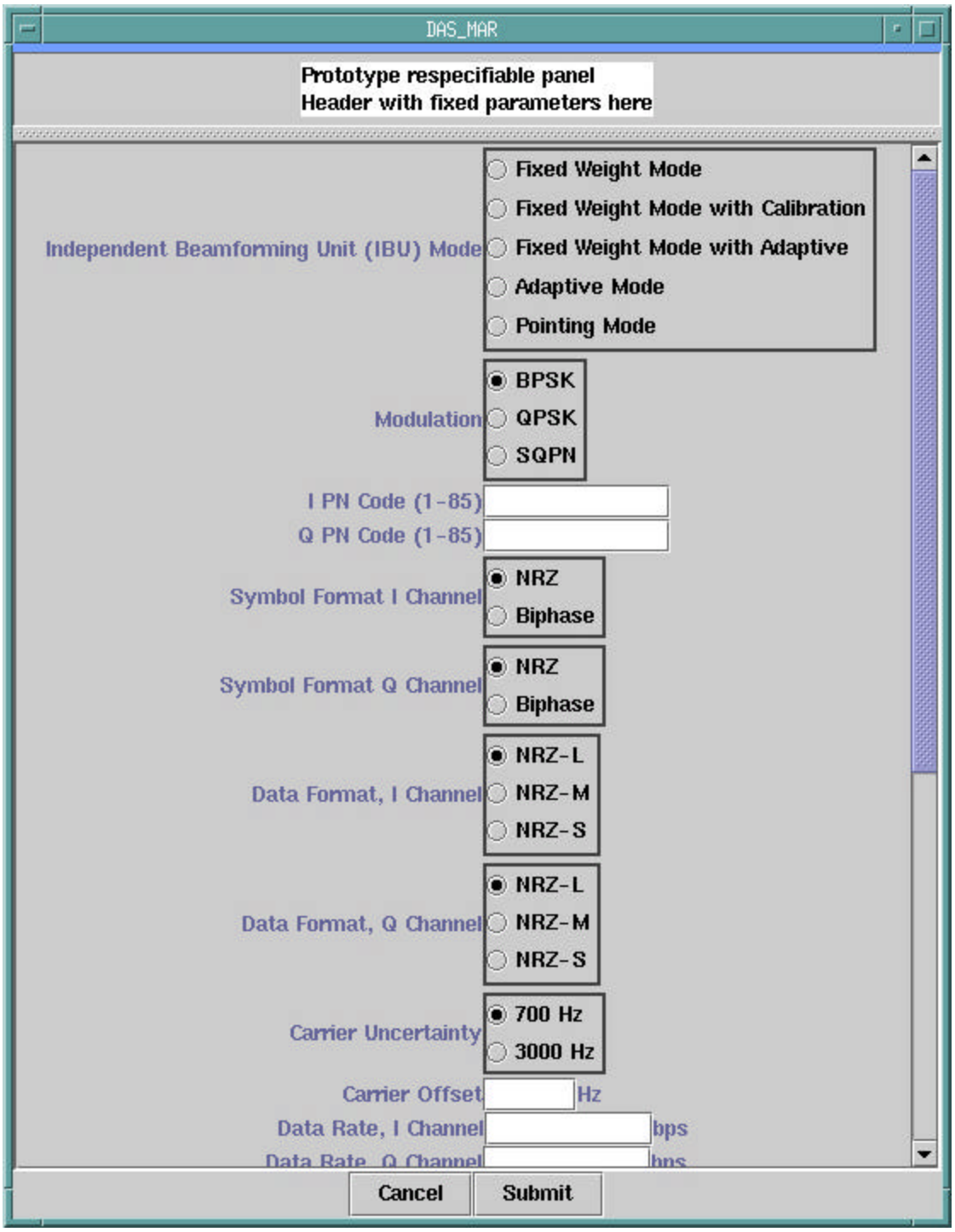

Figure 3 – ServiceParmWindow for DAS MAR (scrolled up)

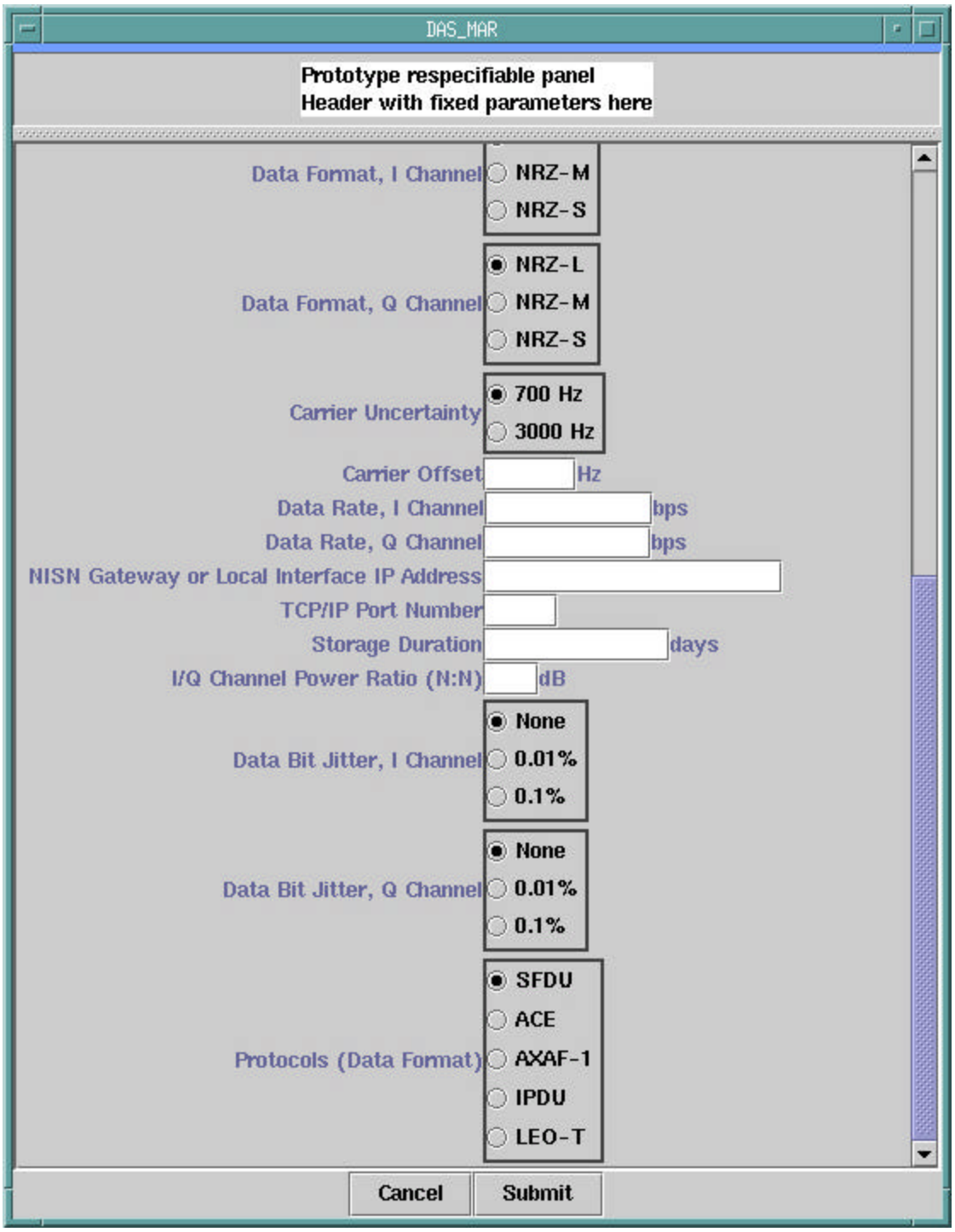

Figure 4 – ServiceParmWindow for DAS MAR (scrolled down)

Resource Availability Request concept:
Selecting the DAS 'Resource Availability Request' would result in a menu panel from which the user could choose to request a DAS resource availability report by specifying the time window within which the service is desired. This panel is shown in Figure 5. The 'TDRSs Selected' is a checkbox allowing multiple selections. The list of TDRSs would be created from the list provided in the SetupObject to the client. A user can select multiple TDRS or 'Any', which indicates no preference in selecting TDRSs for use. In this latter case, DAS would make the TDRS selection and indicate when if any TDRS transitions would occur.

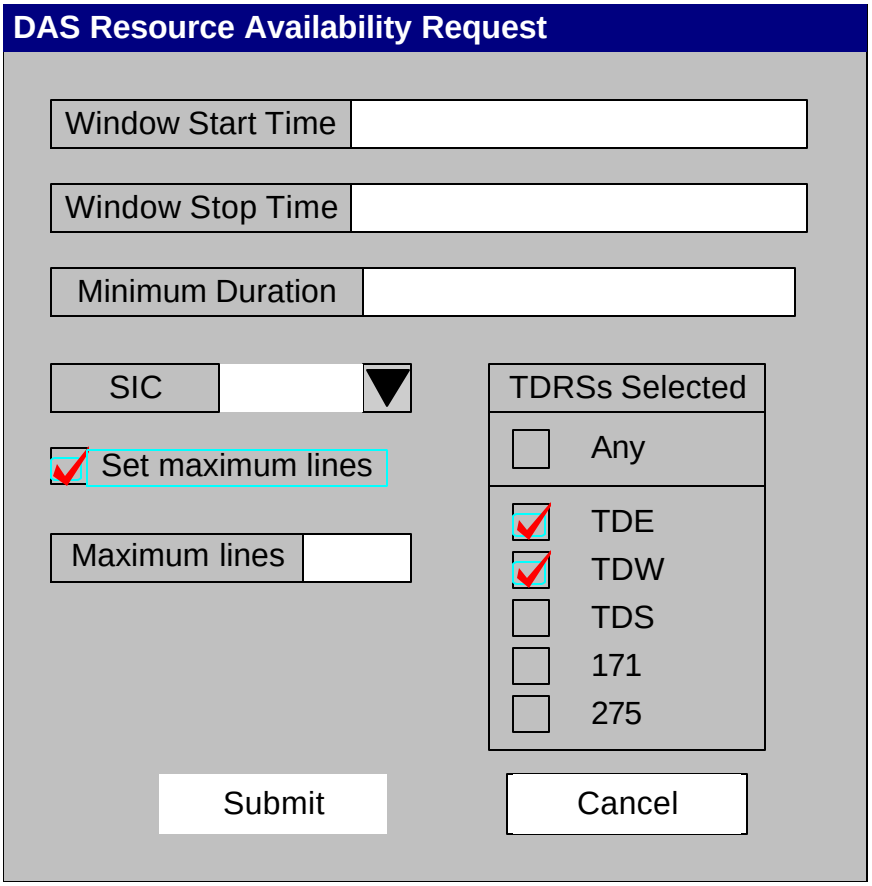

Figure 5 – DAS Resource Availability Request Panel

The DAS Availability panel, showing the resource availability report, is shown in Figure 6. This panel may contain additional columns indicating DAS resources available. This panel will contain a non-editable header showing the corresponding DAS Availability Request made by the user. The 'Impact' column shows, for dedicated users, what impact they might have on other missions by preempting this time slot. Impacts would be rated as being none, low, or high. A panel of this type will be created for each availability request submitted. Multiple panels could be brought up to allow the user to compare availabilities during different periods.

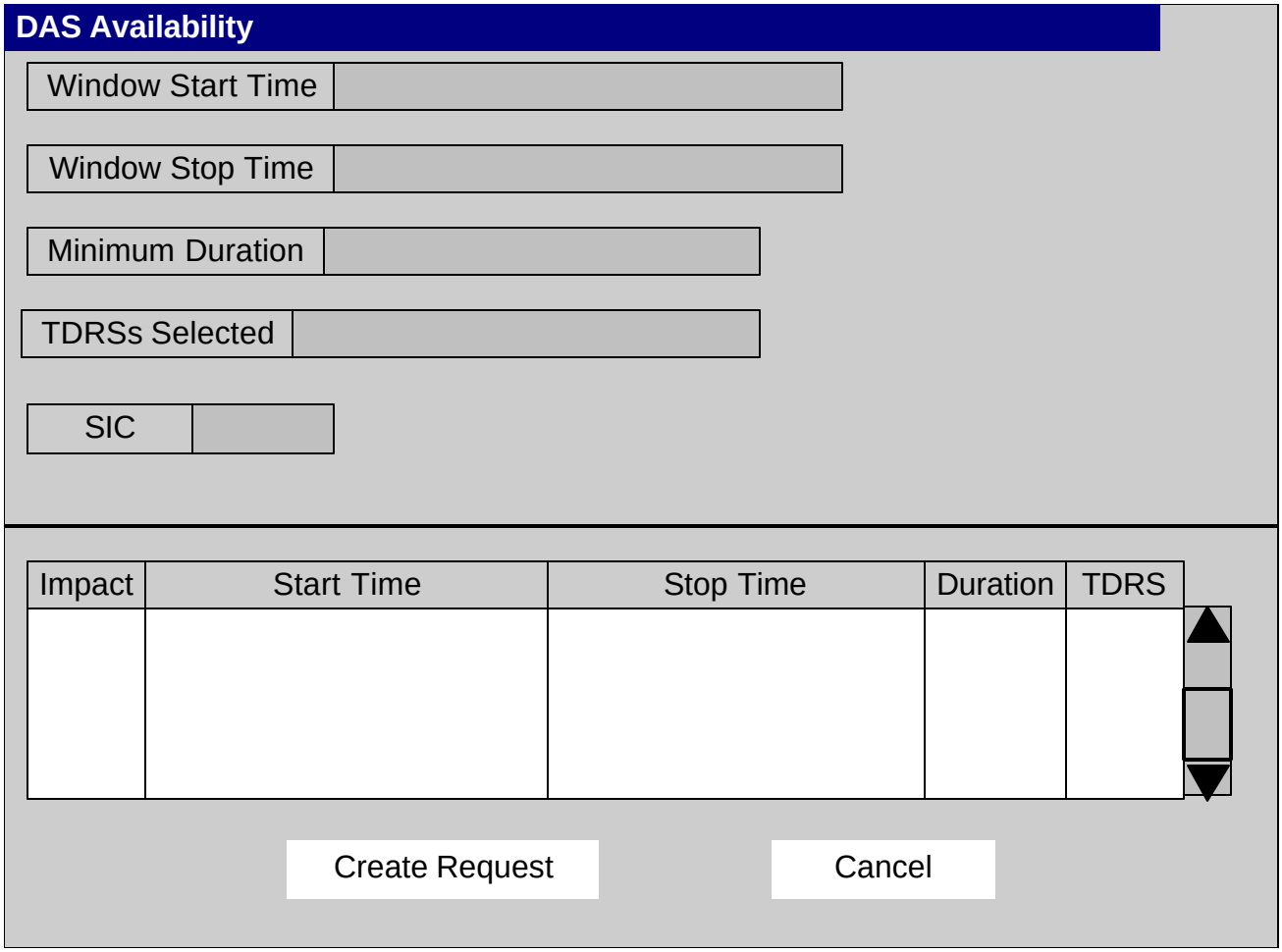

Figure 6 – DAS Availability Panel

The DAS Availability panel would allow the user to select a line and create a DAS Resource Allocation Request. If the 'Create Request' button is selected the DAS Resource Allocation request panel, shown in Figure 7, is generated with the start time, stop time, desired TDRS, and SIC prefilled. Only one line can be selected per request.

DAS Create RAR Concept:
If the DAS 'Create RAR' menu option is selected from the main menu, the DAS Resource Allocation Request panel, shown in Figure 7, is generated with blank fields. The SSC field is disabled until the user selects a SIC. Then the list of SSCs for that SIC are available. The user is free to modify any parameters in the SSCs before submitting the request. This would use a ServiceParmWindow (shown in Figure 3) and would be identical to the window used to edit NCC respecifiable parameters (the SUPIDEN field in the header would be set to the SIC).

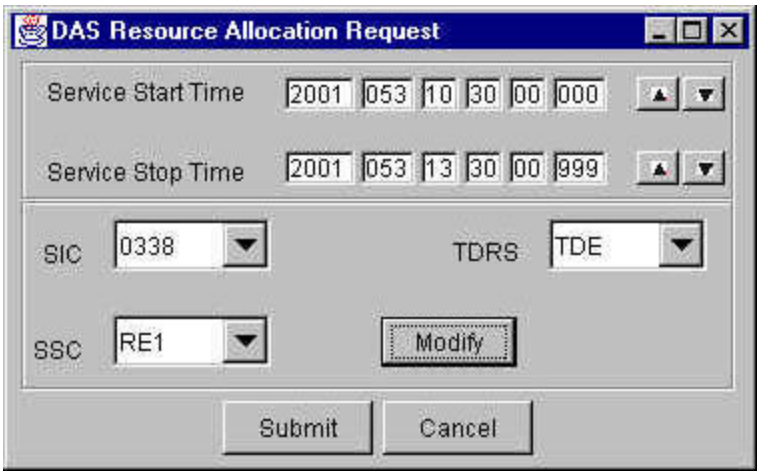

Figure 7 – DAS Resource Allocation Request Panel

Pressing the 'Submit' button will cause the client application to check that the SIC, SSC, Start, and Stop times are set before forwarding the request for scheduling. A similar panel will be generated for a DAS modification request, which is shown in Figure 7a.

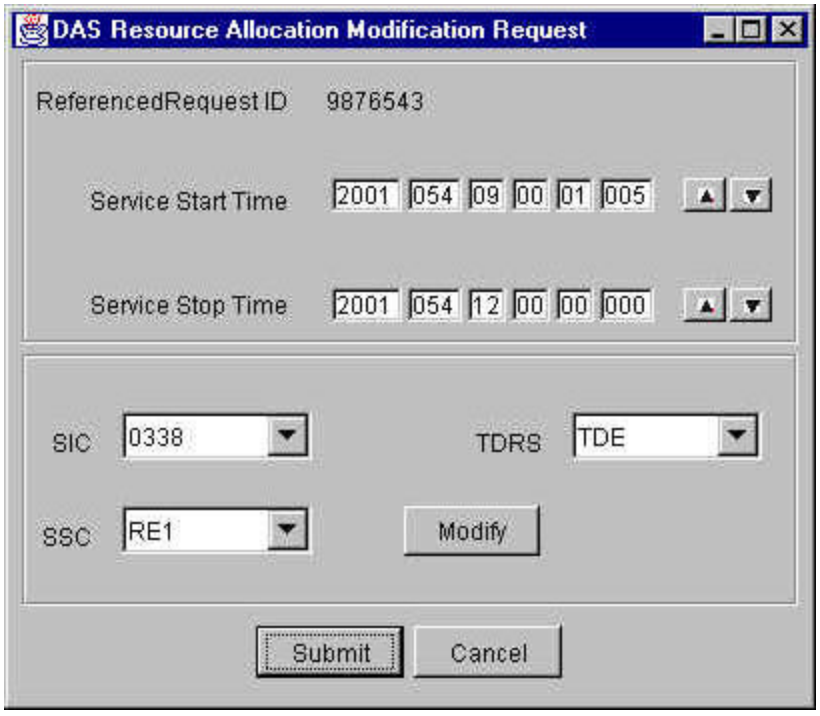

Figure 7a – DAS Resource Allocation Modification Request Panel

DAS Playback Planning concept:
Selecting the DAS 'Playback Planning' option would result in a menu panel in which the user could specify the time window within which data retrieval is desired. This panel is shown in Figure 8.

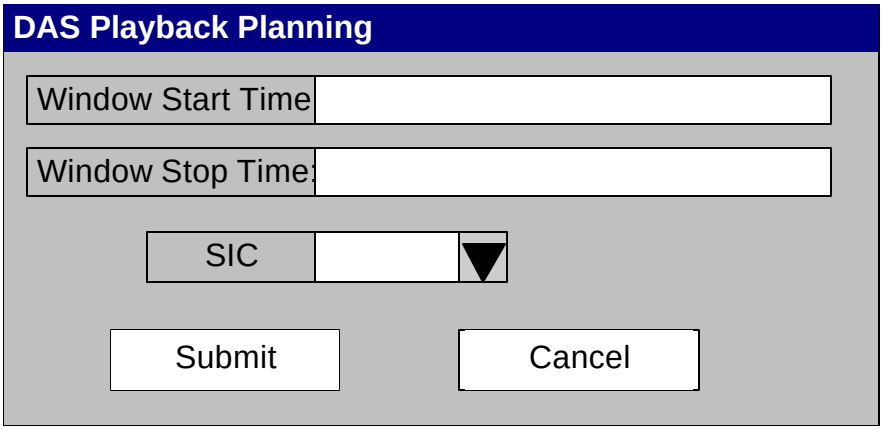

Figure 8 – DAS Playback Planning Panel

The DAS Playback Availability report, shown in Figure 9, would allow the user to select and request an available playback. The user would be allowed to make multiple selections from the table as part of the same playback request. The DAS response to this request would be returned to the client in the form of an alert message.

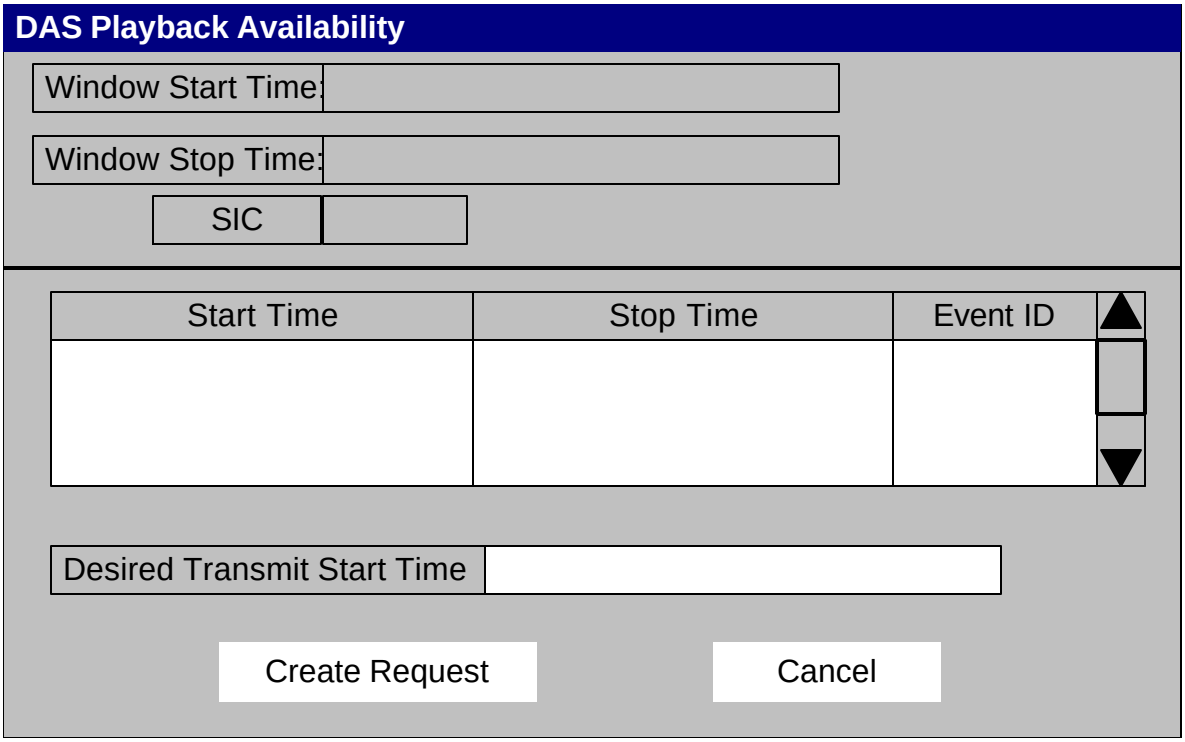

Figure 9 – DAS Playback Availability Report

Summary Panel Modifications

The current Schedule Requests Summary panel is shown in Figure 10. This panel will be used to view both NCC requests and DAS requests.

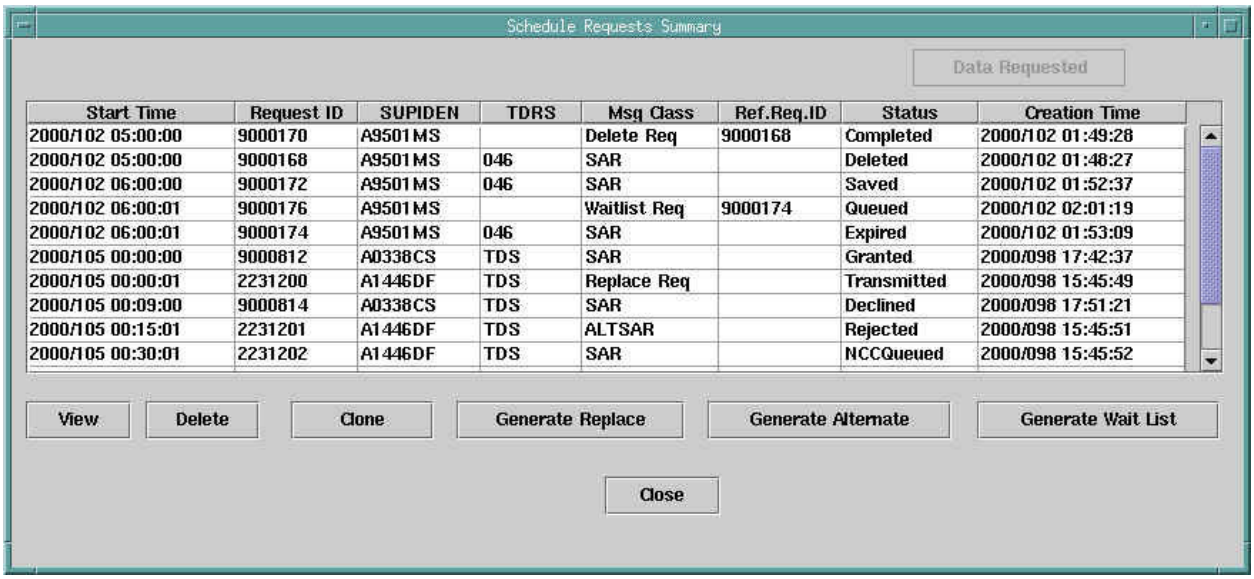

Figure 10 - Schedule Request Panel

DAS Requests will be identified by unique Message Class identifiers to allow someone viewing these summary panels to distinguish between NCC and DAS requests. Additionally, someone viewing these panels could sort the requests by pressing the Message Class column header on that panel. This would group the requests by Message Class and allow the user to more easily identify DAS specific requests. DAS specific message classes are as follows:

- DAS RAR – DAS Resource Allocation Request
- DAS RADR – DAS Resource Allocation Deletion Request
- DAS RAMR – DAS Resource Allocation Modification Request
- DAS PBKR – DAS Playback Request
- DAS PBKDR – DAS Playback Deletion Request
- DAS PBKMR – DAS Playback Modification Request

The current Active Schedule panel is shown in Figure 11.

Figure 11 - Active Schedule Panel

DAS events will be given a USM Type of 'DAS'. Like the Schedule Requests panel, someone viewing these panels could sort the events by pressing the USM Type column header on that panel. This would group the events by USM Type and allow the user to more easily identify DAS specific events. The blank USM Types are actually NCC fixed types and will be shown as 'FIXED' in the final implementation. Likewise, the 'SIM' types will be shown as 'FIXED SIM' in the final implementation.

Additionally, the summary panels would have to be modified to support the following functionality:

View Button: The Schedule Request panel would have to be modified to call the correct class (DAS Request or SchAddReqFrame) depending on whether a DAS request or an NCC request was selected for viewing.

Generate Replace Button: Similarly for the Generate Replace button, if a DAS RAR request is selected, the DAS Resource Allocation Request panel, shown above in Figure 7 would be called with a flag indicating a modification request is desired. The panel would be shown with a title of 'DAS Resource Modification Request' and would include the original request's ID. A new status of 'MODIFIED' may be needed for viewing modification requests and their results on the Schedule Request panel.

If a DAS Playback Request is selected and the Generate Replace Button is pressed, the panel shown in Figure 12 would appear.

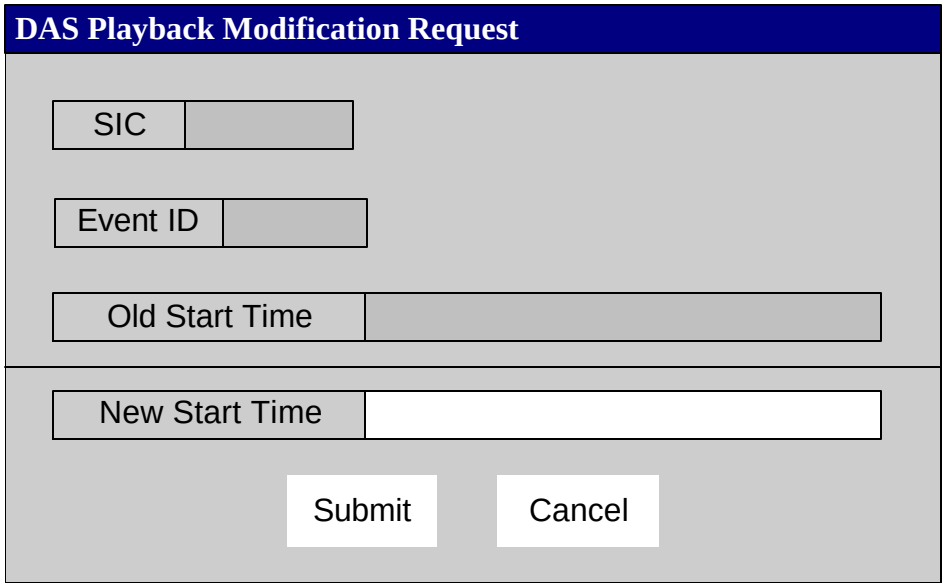

Figure 12 – DAS Playback Modification Request

New Buttons: Radio buttons to view only NCC requests or events, DAS requests or events, or both would be added to both displays.

When an event is selected on the Active Schedule panel and the 'Display Service' button pressed, the Service Display panel is shown for that event. Figure 13 shows the current Service Display panel.

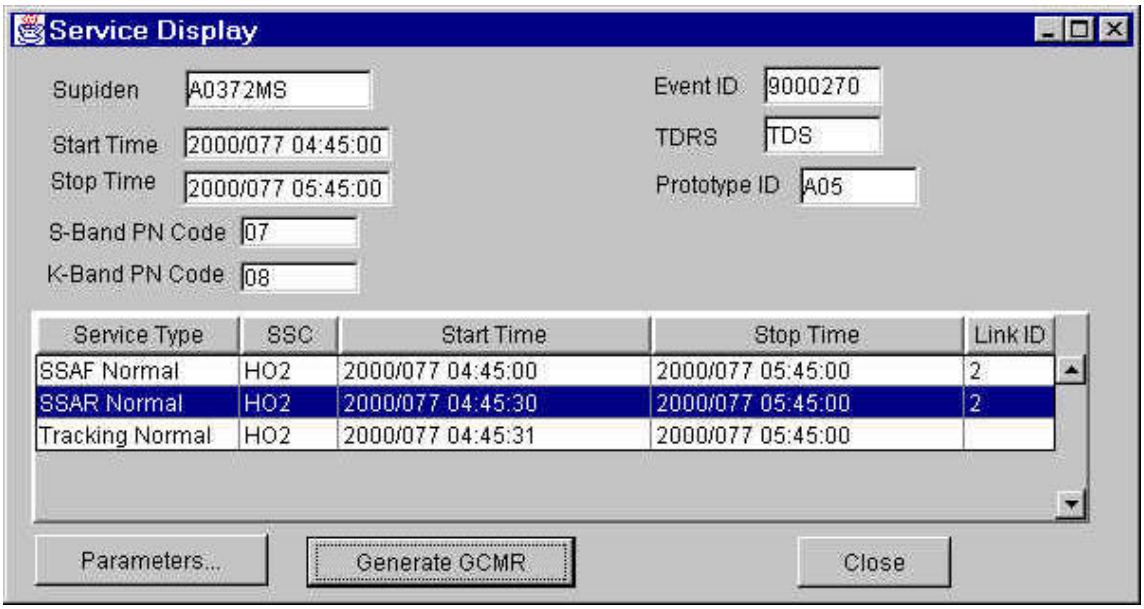

Figure 13 – Service Display Panel

A new button called 'View Transitions' will be added to the Service Display panel. This button would only be enabled when a DAS event is selected and the TDRS is marked as 'Any'. This button will bring up a subpanel displaying the planned TDRS transitions for that DAS service. This panel is a viewing only panel and is shown in Figure 14.

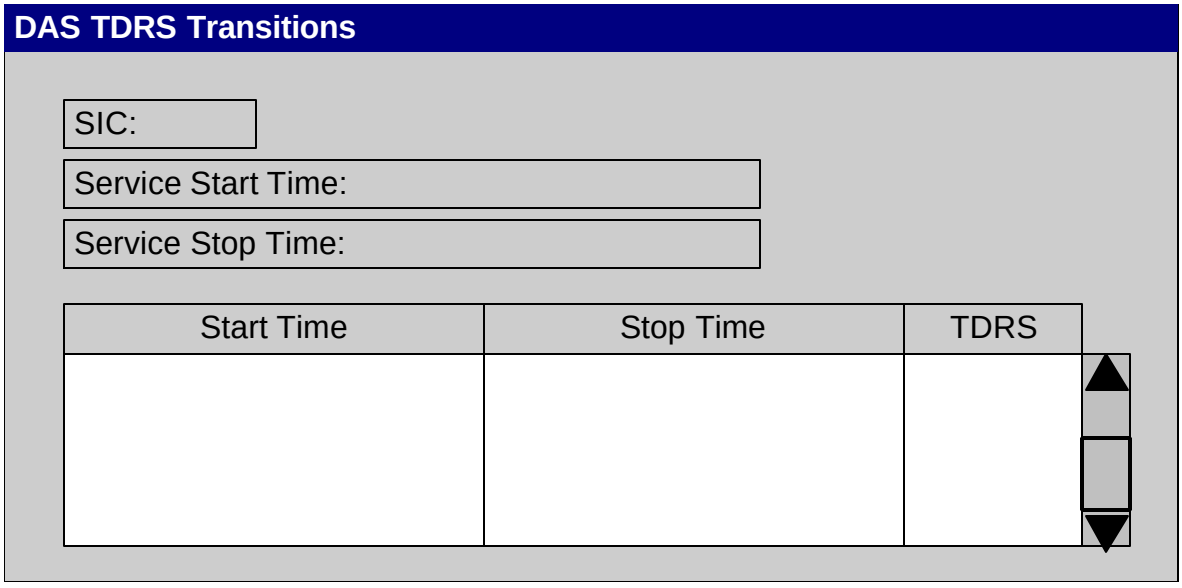

Figure 14 – DAS TDRS Transitions Panel

Modifications to Existing Panels: Alert Panel
DAS Alerts would be shown on the existing Alerts Panel. A column identifying the source of the alert will be added.

Modifications to Existing Panels: SV Panels
SV panels would be used without modification. For Users/SICs flagged for DAS, SVs would be sent to both the NCC and DAS if the user was flagged as an NCC and DAS user, or to either NCC or DAS if the user was flagged as a user for only one of these.

If the user selects "Generate Stationary" from the Main Control Panel, the panel shown in Figure 15 will appear. The user would enter state vectors manually in this panel. If the user selects "Import" under "State Vector" from the Main Control Panel, a file chooser panel appears from which the user can specify which file to send.

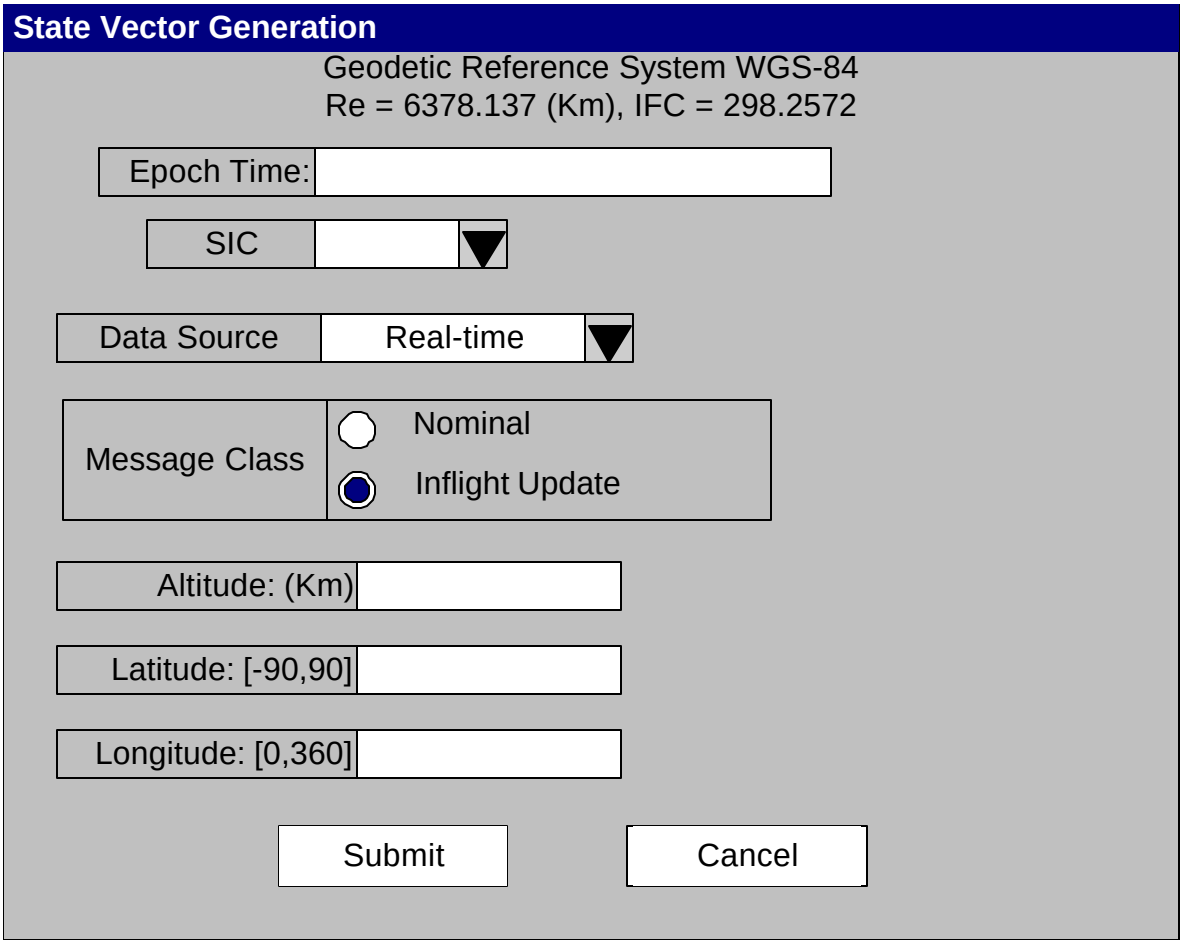

Figure 15 – State Vector Input Panel

Modifications to Existing Panels: TSW Panels
Since DAS computes their own TSWs, TSWs entered by the user would only be sent to the NCC. There would be no change to the TSW window.

Modifications to Existing Panels: UPD Panels

DAS Services would be shown along with the NCC services in the UPD summary panel. The TDRS ID shown for a DAS service would be the current TDRS ID for that service, the SUPIDEN would be replaced by the SIC, and the link number replaced by the EventID. This panel is shown in Figure 16.

User Performance Data Summary Panel

Time	SUPIDEN or SIC	STATUS	Service	TDRS	Link or EventID	Submit GCMR
yyyydddhhmmss	B1295MS	Good	MAF	170		
yyyydddhhmmss	B1295MS	Out of Tolerance	SSAF	170	1	
yyyydddhhmmss	1295	Good	DAS	046	9000928	

Figure 16 – UPD Summary Panel

Pressing the status button on the summary display would bring up the detail panel for that UPD. This panel is shown in Figure 16a with sample data.

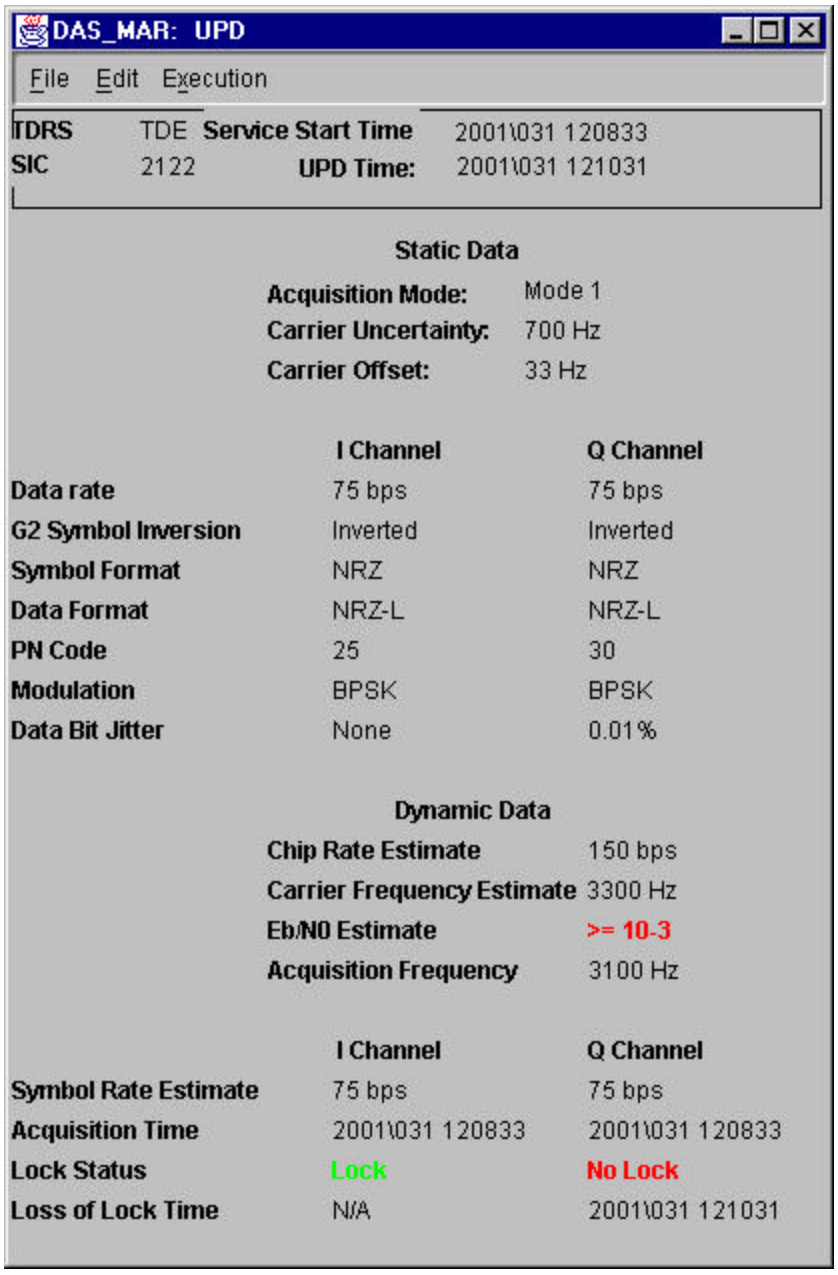

Figure 16a – UPD Detail Panel

New Panel: DAS GCMR Panel

DAS GCMRs would use a DAS unique GCM menu panel (different from NCC requests). For DAS GCMRs, the EventID would be set, and the GCM types would be restricted to 'Service Reconfiguration' and 'User Reacquisition Request'. The DAS GCM Menu panel is shown in Figure 17.

Selecting a 'Service Reconfiguration' will cause a ServiceParmWindow to be generated allowing the user to update the SSCs for that service.

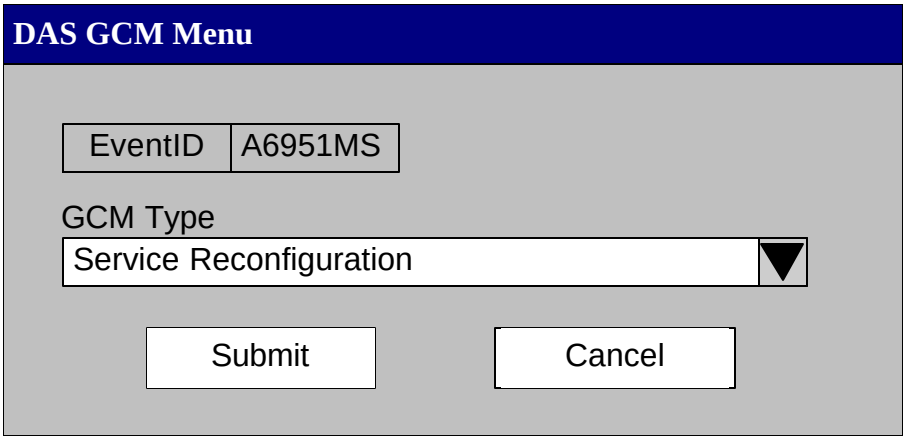

Figure 17 – DAS GCM Menu Panel

Backend Support:
A new service type of DAS will be defined and added to the database. Database will keep DAS SSCs and will need entries in the SERVICE_PARAM table describing the new DAS service. New common classes and backend functionality will be needed to allow the client application to request the latest values for a DAS SSC and to update these values (i.e., these values will NOT be included in the SetupObject).

The DAS will maintain all the active schedules on their database. This information will NOT be kept in the SWSI database.

Since active DAS services are uniquely identified only by the EventID, the backend will send DAS UPDs with a DAS EventID instead of the SUPIDEN and will accept GCMRs with a DAS EventID instead of the SUPIDEN.

SVs sent for a SIC by a user that has DAS user privileges would be sent to both the NCC and DAS. The format for State Vectors will be the same as implemented for the NCC.