Technical Support Staff (TSS) Operations Manual

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REVISION HISTORY

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07/19/05	0.1	L. Muterspaugh	Initial draft
08/08/05	0.1a	L. Muterspaugh	Following initial internal review
08/09/05	0.1b-c	L. Muterspaugh	Formatting and other minor changes
09/06/05	0.2	L. Muterspaugh	Major revision; updated to reflect ongoing system enhancements
9/15/05	1.0	L. Muterspaugh	Initial release

1   INTRODUCTION

In the spring of 2005, DBS Communications entered into an agreement with Firefly Mobile to act as an intermediary between Firefly and Cingular in the activation/deactivation of Firefly phones. Firefly, in turn, engaged ComSpan to provide customer service. For an overview of the Firefly Mobile service and the team of companies involved in the packaging, activation, and support of its phones, see *Firefly Overview*.

1.1   Purpose and Audience

The purpose of this manual is to provide training, procedures, and reference materials for the DBS Technical Support Staff (TSS) who follow the Firefly-approved escalation process to resolve service tickets opened by the ComSpan Customer Service Representatives (CSRs) (Escalation 1 Support).

1.2   Scope

The scope of this document is limited to the training, procedures, and reference materials DBS Technical Support Staff (TSS) will need to resolve support issues that are documented on tickets opened by the ComSpan Customer Service Representatives (CSRs) (Escalation 1 Support).

1.3   References

- *Firefly Overview*
- *Flowchart of IVR options*
- *Firefly Network Diagram*
- *Firefly Parent's Guide*
- *Firefly Design documents TBD*

1.4   Conventions

Convention	Definition
<text to replace>	Angle brackets indicate text that is replaceable.
`mono-spaced font`	Mono-spaced font indicates a command prompt entry (or display), a pathname, file name, directory path, or URL.
"Text"	Quotation marks indicate the title of a window or dialog box, or the label of a radio button or other control on a page (except buttons). When a window has subtitles, the subtitle is included after a vertical line (e.g., "CVS Project Wizard | Check Out from Repository"). Buttons on windows or browser pages are not differentiated from surrounding text. The preceding text will clearly indicate the appropriate action. For example: • Click the "User" radio button • Click OK
File > Open	Words separated by a single angle bracket indicate subsequent selections from a menu. The example at left means that the reader should select File from the menu, then select Open from the submenu.

Convention	Definition
[Enter]	A key name in brackets indicates that the user should press the named key on the keyboard. Key combinations (where you must press one key while simultaneously pressing another) will be hyphenated (e.g., [Ctrl]-[F9]).
new term	New terms may be italicized when first introduced.
Note:	This bolded word precedes a note about certain instructions or conditions.

1.5   Terms and Abbreviations

For a list of terms and abbreviations, see Section 6, Glossary.

2 THE ESCALATION PROCESS: AN OVERVIEW

As a member of the TSS team, your goal will be to help Firefly and ComSpan maximize customer satisfaction with the Firefly service. To do this, you will use the escalation process to meet the resolution expectations in a timely fashion and prevent tickets from being escalated to managers.

To help you understand this process, this section presents an overview of the Firefly team, a typical work flow for an Escalation 2 service request (the level you will be working with most often), and a summary of the ComSpan and IVR escalation processes you will be following to maintain service levels.

2.1 The Firefly Team

A number of companies are involved in the manufacture, activation, and support of the Firefly phones:

- **ComSpan.** Provides customer service for Firefly customers.

- **Sentinel.** Provides triage service for customer service issues that ComSpan cannot resolve. Opens and closes tickets for customer service issues.

- **Brightstar.** Distribution center that (a) uses the Brightstar application provided by DBS to create a 7-digit activation code (PIN) that represents a phone's 20-digit SIM and the 11-digit IMEI and (b) packages the Firefly phone with a label showing the activation code (PIN).

- **Intervoice.** Provides the DBS Firefly IVR to which Firefly customers are transferred when they call 1-800-Firefly and select the option to activate their phones.

- **DBS R&D.** Provides (1) the Brightstar application that produces the activation codes (PIN); (2) the FF-CSMS system, which creates and transmits work orders to Cingular's Telegence and CARE systems; (3) the Customer Service GUI used by ComSpan (*aka* the "Comspan GUI"); (4) the Message Manager used to insert global and local network alerts into the ComSpan GUI; and (5) an implementation of the Nagios open source host, service, and network monitoring program. See Section 4.2, Check the Pending Work Orders Report on page 44.

- **Cingular.** Provides (1) cellular service and hardware used by direct customers and resellers, such as DBS and Firefly; (2) the Telegence and CARE systems that allow resellers like DBS to submit work orders.

- **Ericsson Reseller Prepaid CARE system.** Firefly uses this system to manage account balances for its customers.

- **DBS TSS.** Supports ComSpan customer service by using FF-CSMS to resolve tickets forwarded from Sentinel.

- **E2.** Monitors network connections between DBS servers used by FF-CSMS.

- **TUSC.** Manages and monitors processes within the FF-CSMS Oracle database.

- **Vesta.** Validates credit card orders for additional minutes that customers submit through DBS Firefly IVR or Firefly web site.

- **InComm.** Validates PINs on replenishment phone cards purchased from Firefly retail partners (e.g., Target).

Note: Account balances are maintained in Ericsson Reseller Prepaid CARE System, *not* FF-CSMS. For more information, see Section 3.3, Review Differences Between FF-CSMS and CSMS on page 13.

2.2 The ComSpan Escalation Workflow

Now that you have an idea of how many companies need to coordinate their work to support Firefly Mobile, it is time to look at the escalation workflow you'll be using on a daily basis.

Figure 1 shows the workflow for Escalation 2, the level of calls that will be your primary responsibility. As you can see, you will be expected to respond and/or resolve most tickets within two call center business hours. Thus, calls received near the end of the ComSpan business day may "wrap" to the next day, as long as the total elapsed time is two hours or less.

Note: Figure 1 assumes that the ComSpan ticket will be clear and that TSS will have no questions. If there are questions, TSS will send an email to Sentinel at firefly@sentinel.com and Sentinel will forward the question to ComSpan at firefly@comspanusa.net.
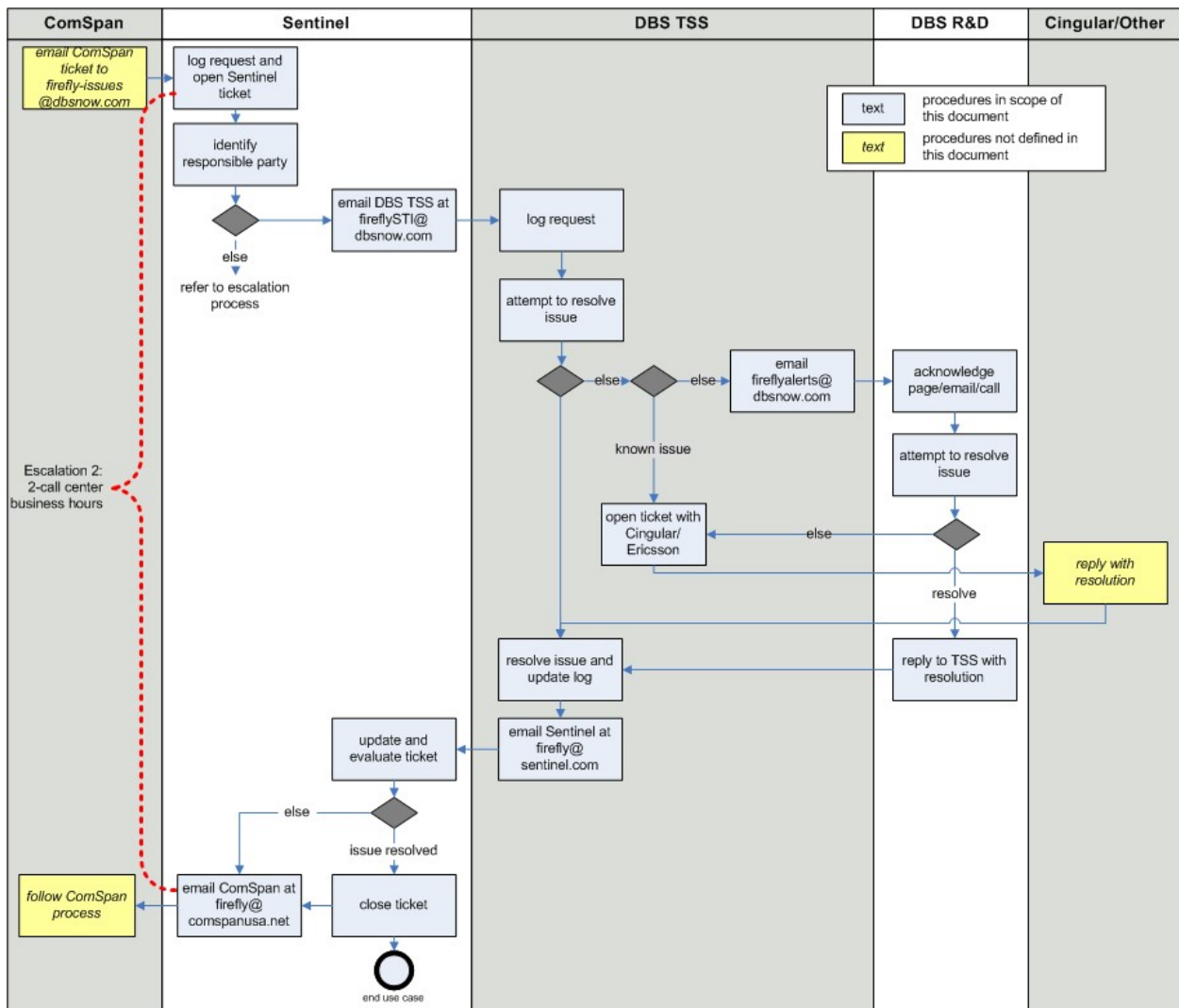
Figure 1 The Escalation 2 Workflow

2.3   The Firefly-DBS Escalation Process

The escalation process is used to prioritize, coordinate, and track work on service requests the ComSpan CSRs make on behalf of Firefly customers.

Typical Issues	Resolution Expectations	ComSpan Contact	Firefly Contact	DBS Contact	Contact Method
Escalation 1 (First Customer Contact)					
• check status of activation • verify status of pending activations or provisioning changes • check history/past work orders • check status on planned or current service-affecting network issues • verify time/dollars on account • check refill status/info	Systems expected to be available during all *call center business hours* (5 a.m. – 10 p.m. PST or 7a.m. – 12 a.m. CST).	CSR	--	DBS systems	Customers will be directed to ComSpan Customer Support.
Escalation 2					

• New phone/provisioning issue
  o error/failed work order (error queue)
  o activation WO complete but phone not working
• in-market MDN change
• DBS systems unavailable
	Resolution expected within 2 *call center business hours* (5 a.m. – 10 p.m. PST or 7a.m. – 12 a.m. CST).	Lead or Super	--	DBS TSS	Sentinel will email tickets to TSS at **Firefly-Issues @dbsnow.com.**

Escalation 2 continues next page					

Typical Issues	Resolution Expectations	ComSpan Contact	Firefly Contact	DBS Contact	Contact Method
Escalation 2 (continued)					
• cross-market MDN change • work order errors/failures or other service issues originating from Cingular systems/network or that require Cingular to resolve • Ericsson Reseller Prepaid CARE system unavailable	• Response/ETR always expected within 2 *call center business hours* Perform cross-market MDN changes within 24 hours. • Resolve Cingular-related and Ericsson-related issues within 72 hours.	Lead or Super	--	DBS TSS	Sentinel will email tickets to TSS at **Firefly-Issues @dbsnow.com.**
• report severe, widespread service-affecting issues • request for information/subpoena from law enforcement	Reply within 2 *call center business hours.* Resolution of law enforcement requests to be according to legal requirements.				
Escalation 3					
• response/resolution of Escalation 2 not within expected timeframe[5]	All such escalations to be updated or resolved within 30 minutes (*call center business hours*).	Supervisor, Ops Mgr or CRM	--	DBS TSS	ComSpan will call DBS TSS at 888-259-5819.
Escalation 4					
• response/resolution of Escalation 3 not within expected timeframe[5]	Response times as deemed appropriate given the issue at hand.	Ops Mgr or CRM	--	DBS Acct Mgr	ComSpan will call DBS - Jennifer Keating at 847-879-8853.
Escalation 5					
• response/resolution of Escalation 4 not within expected timeframe[5]	Response times as deemed appropriate given the issue at hand.	--	CS Manager	DBS Acct Mgr	ComSpan will call DBS - Jennifer Keating, at 847-879-8853.

Notes:

1. Except where time is given in 24-hr increments, the number of hours for an issue to be resolved or responded to is given in *call center business hours* (5 a.m.–10 p.m. PST or 7a.m. – 12 a.m. CST). Thus the resolution time period will wrap to the next day if a request is submitted within that number of hours of the call center closing.
2. The CSR team should never initiate a request, check progress on an issue, or escalate to Escalation 2 or 3 by calling or emailing any number other than Firefly-Issues@dbsnow or 888-259-5819 (which is routed through Sentinel, a DBS vendor).
3. If DBS TSS has a question about a ticket, they will send an email to firefly@sentinel.com, who will forward the question to ComSpan at firefly@comspanusa.net. This process helps to maintain a record of all efforts to resolve the ticket.
4. No escalations should occur outside the call center hours but exceptions will be made for:

    o   Severe and widespread service-affecting issues.

    o   Service-affecting issues identified by the Nagios monitoring system, which will send an email to Sentinel and a list of R&D employees. During TSS service hours, Sentinel will forward the ticket to TSS for handling. If Nagios does *not* send an "issue-resolved" page after two hours and it is after TSS service hours, Sentinel will escalate the issue by calling the on-call member of DBS R&D directly.

5. The "expected timeframe" for a given issue will differ depending on the type or category of issue. Examples are given above, but a complete list is outside the scope of this overview.

2.4   The DBS-IVR Escalation Process

Firefly customers activate their phones by calling 1-800-Firefly and selecting the option for activation. This connects them to the DBS Firefly *IVR,* which is supported by Intervoice. If the IVR is down, customers cannot activate their phones and will be transferred to ComSpan, who will, in turn, open a ticket that will be directed to DBS TSS.

Because problems with the IVR system have a major impact on Firefly and ComSpan Customer Service, you will need to open a ticket with Intervoice and make sure they escalate the issue as needed.

The procedure for opening a ticket with Intervoice is shown in Section 4.4.1, Handling Tickets about IVR Issues on page 49. This section contains the Intervoice severity ratings and the escalation process that Intervoice should use in handling the ticket you open. The Intervoice contacts to use in escalating tickets are shown in Section 5.6, Telephone Numbers on page 75.

The following tables are taken directly from the Intervoice Method of Operations (MOO) document for the Firefly Activation IVR. These are the internal procedures that the Intervoice Network Operations Control Center (NOCC) are to follow, based on the severity rating assigned to the ticket.

Table 1 Intervoice Severity Ratings

Severity	Description of initial problem and it's impact on production
1	These are problems with conditions that require immediate investigation by Intervoice. This severity level is reserved for production ports that are experiencing critical failures. A "critical failure" means that the functionality of the System is seriously disrupted or impaired such that fifteen percent (15%) or more of the calls are going unanswered.
2	These are problems with conditions that require immediate investigation by Intervoice. This severity level is reserved for production ports that are experiencing problems where more than ten percent (10%) of calls are going unanswered.
3	These are problems with conditions that require investigation in a timely manner by Intervoice. This severity level is reserved for production ports where more than five percent (5%) of the calls are going unanswered. The following are examples or typical situations that are classified as Severity Level 3 problems. This list is meant to be used as a guide and is not intended to be an exhaustive list of all situations that get classified as Severity Level 3 problems. • Intermittent systems faults • Diagnostic failures on equipment that can be restored • Documentation errors that can generate DBS impacting problems • Minimum service impact (e.g., 15 calls/day)
4	Definition**:** These are problems with conditions that do not require investigation in a timely manner by Intervoice. These low priority conditions require resolution in greater than twenty-four (24) hours. Documentation problems or general product questions that do not generate DBS problems can be deferred based upon DBS/user input and impact reports and input message and output message format problems that would not result in an impact to the service if executed incorrectly.

Table 2 Intervoice Internal Activity Escalation Process

LEVEL	PHASE	SEVERITY 1	SEVERITY 2	SEVERITY 3	SEVERITY 4
LEVEL 1	INITIAL RESPONSE	IMMEDIATE	IMMEDIATE	2 HOURS	8 HOURS
LEVEL 2	TRIAGE	IMMEDIATE	1 HOUR	1 HOUR	BEST EFFORTS
LEVEL 3	SPECIALITY TEAM & MANAGEMENT	1 HOUR	2 HOURS	4 HOURS	BEST EFFORTS
LEVEL 4	LEVEL 4: R&D ENGINEERING OR APPLICATIONS ENGINEERING	2 HOURS	4 HOURS	8 HOURS	BEST EFFORTS
LEVEL 5	VP SERVICE	4 HOURS	8 HOURS	48 HOURS	BEST EFFORTS
LEVEL 6	STATUS TO CUSTOMER MANAGEMENT	HOURLY	4 HOURS	DAILY	BEST EFFORTS

3   GETTING STARTED

3.1   Make Sure You Have User Accounts

To do your work, you will need user accounts with the appropriate privileges. Your manager will assess your duties and request the appropriate user accounts on your behalf. The systems you may need to use include:

- FF-CSMS
- ComSpan GUI
- Telegence (Cingular)
- CARE (Cingular)
- Ericsson Reseller Prepaid CARE
- Sentinel ticketing system

3.2   Create Bookmarks or Desktop Shortcuts for DBS Firefly Applications

To simplify your work, you will want to create bookmarks or desktop shortcuts for the DBS Firefly applications you will be using.

The primary URLs are shown in Section 5.1, Primary URLs for DBS Firefly Applications on page 73. These URLs point to the servers with load balancers. Whenever possible, you should log on to the load-balanced servers.

The URLs for the secondary servers are shown in Section 5.2, Secondary URLS for DBS Firefly Applications on page73. Use these URLs only if the load-balanced server is unavailable.

Tip: To be sure you log on to the load-balanced servers, use a simple naming scheme to distinguish the load-balanced servers from the secondary servers. For example, the bookmark that points to the FF-CSMS load-balanced server might be named "FF-CSMS Main" and the bookmarks for the secondary servers might be named "FF–CSMS Backup 1" and "FF–CSMS Backup 2."

3.3   Review Differences Between FF-CSMS and CSMS 3.0

As a member of the DBS TSS staff, you may also have access to CSMS 3.0, which DBS uses to manage its core business and products.

FF-CSMS, which is used to support the Firefly account, contains a duplicate of the entire CSMS 3.0 code base but only certain components have been enabled. The table below summarizes other differences between the two systems.

Caution: Even though FF-CSMS and CSMS 3.0 look the same, they are different systems with separate databases. You **must** submit all work orders for Firefly customers though FF-CSMS. This policy will ensure the FF-CSMS database base contains accurate records of:

- the Firefly work orders.
- the link between each phone's activation code (PIN) and its association to a SIM and IMEI. The ComSpan GUI allows the CSRs to search by activation code. If this link is broken (e.g., by using CSMS 3.0 to perform an MDN change for a Firefly phone), neither the ComSpan GUI nor FF-CSMS will be able to retrieve data for the contract.

Tip: When you log on, look for the Firefly wallpaper to be sure are logging on to FF-CSMS.
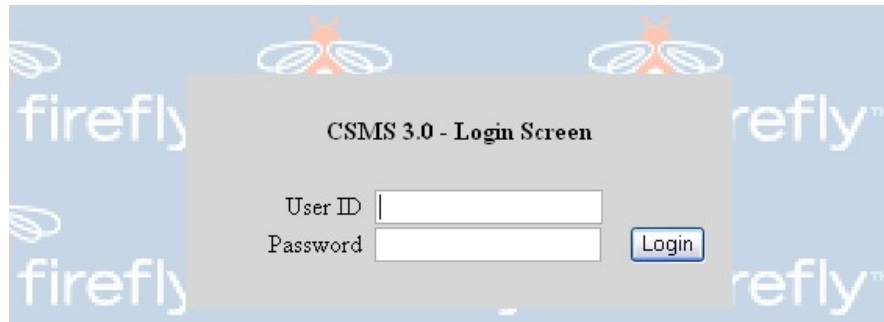
If you are logged on to both FF-CSMS and CSMS 3.0, check the address in the browser window before you start to work on a ticket.

CSMS 3.0	FF-CSMS
Dealers Managed	
• All dealers who act as retailers for DBS	• One dealer, Firefly, with ID of 2000
Products Managed	
• All products and feature sets that DBS offers through retailers	• One product (Firefly) with one feature set
Users	
• DBS TSS (direct access)	• DBS TSS (direct access)
• DBS Customer Service (direct access)	• ComSpan Customer Service (limited and indirect access through ComSpan GUI)
• DBS Retailers (limited and indirect access through IVR, Mia, and DBS Customer Service)	• Firefly customers (limited and indirect access through DBS Firefly IVR and ComSpan Customer Service)
• DBS Sales and Marketing	• N/A
• DBS Accounting	• N/A
• DBS Senior Management	• DBS Senior Management
• DBS R&D	• DBS R&D
Note: DBS Retailers have indirect access through DBS Customer Service, the IVR, or Mia.	*Note:* Firefly (ComSpan) Customer Service has indirect access through the ComSpan GUI provided by DBS. ComSpan and Firefly customers have indirect access through the Firefly IVR.

CSMS 3.0	FF-CSMS
Key Components	
• CSMS Screens: All present, all enabled.	• CSMS Screens: Customized logon screen. Remaining screens present, but not all are enabled. See Section 3.4.3, Tour the FF-CSMS Menus on page 18 for details.
• Core 1: Call Record Processing, Rating, and Applying. Manages dealer banks and contract account balances.	• Core 1: Not enabled. Firefly uses Ericsson Reseller Prepaid CARE system to access CDRs. (This is one of the systems you may use in your work for DBS Firefly TSS.)
• Core 2: Line Management. Manages the "phone bank" or inventory of available MDNs.	• Core 2: Renamed Resource Manager. Enabled.
• Core 3: Product Management. Manages all products DBS offers to dealers.	• Core 3. Manages one product (Firefly) with limited feature set.
• Work Order Processing. CSMS has two versions, one for Telegence (Cingular) API and one for Sprint API. This component monitors the processing of the work orders that ask the carrier to activate a phone, change the MDN, and so on.	• Line Provisioner. The Work Order Processor has been enhanced for FF-CSMS, which has two versions, one for Telegence (Cingular) API and one for CARE (Cingular) API.
• Database: CSMS database schema in an Oracle instance reserved for DBS.	• Database. Uses CSMS database schema in an Oracle instance reserved for Firefly. Includes new tables for Brightstar activation codes, Telegence phone number management, CARE phone number management, and ZIP Codes (used to map ZIP Codes to Cingular coverage).
System Interfaces	
• DBS Customer Service GUI (CSMS Screens)	• Firefly (ComSpan) Customer Service GUI provided by DBS.
• DBS IVR	• DBS Firefly IVR (handles calls transferred from 1-800-Firefly)
• Telegence (Cingular) API	• Telegence (Cingular) API
• Sprint API	• CARE (Cingular) API
• Mia	• N/A
• CDR Pipeline (retrieves CDRs used by Core 1)	• N/A (Firefly uses Ericsson Reseller Prepaid CARE system to access CDRs.)
	• Message Manager. Used to create network status messages displayed on the ComSpan GUI
	• XML interface between Firefly/DBS IVR, ComSpan CS CUI, and FF-CSMS

3.4   Tour FF-CSMS
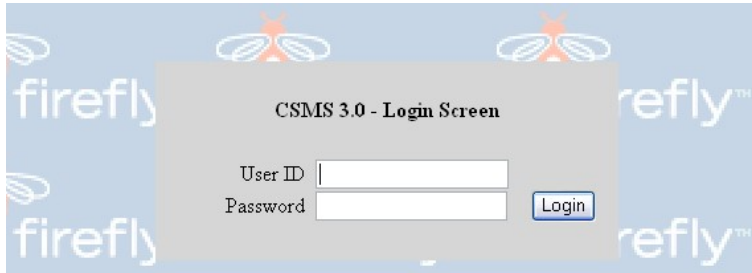
Caution: Even though many of the FF-CSMS and CSMS screens look the same, they are different systems with separate databases. You **must** submit all work orders for Firefly customers though FF-CSMS. This policy will ensure the FF-CSMS database contains accurate records of:

- the Firefly work orders.
- the link between each phone's activation code (PIN) and its association to a SIM and IMEI. The ComSpan GUI allows the CSRs to search by activation code. If this link is broken (for example, by using CSMS to perform an MDN change), neither the ComSpan GUI nor FF-CSMS will be able to retrieve data for the contract.

3.4.1   Log on to FF-CSMS

Note: Every user should be logging on with an individual account. If you do not have a user name and password, contact your manager.
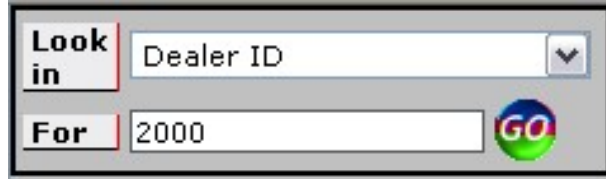
Step	Action
1.	Point your browser at the bookmark you created for the primary URL for FF-CSMS: http://172.18.130.51:8898/dbsWorkplace/dbsApp
2.	Enter your user name and password at the log on screen. CSMS 3.0 - Login Screen User ID Password [Login] *Tip:* When you log on, look for the Firefly wallpaper to be sure you are logging on to FF-CSMS. *The FF-CSMS Announcements page appears.*

3.4.2   Use the FIND Box to Search for Specific Records

The FIND box provides a quick way to search by:

- Phone Number (MDN/MIN)
- Equipment (ENS/SIM/IMEI)
- Contract ID
- Dealer ID
- Dealer Name
- Work Order ID

Notes:

- The Firefly Dealer ID is 2000.
- You can also search by Dealer Name (Firefly) but the search results will include some test dealers, so it is usually faster to search by Dealer ID.
- Trying to search by Dealer ZIP Code will produce an error, unless you enter the default DBS Zip Code of 60195.
- Trying to search by EZLink Card Batch (a DSB product) is not relevant for FF-CSMS.

Step	Action
1.	Make a selection in "Look In."
2.	Enter a value in "For." *Tip:* To avoid typing mistakes, you can copy and paste values into this field. *Example:* Copy the MDN from the Sentinel ticket and paste it into the "For" field.
3.	Press "Go" and the FF-CSMS will display the search results.

If you search by…	FF-CSMS displays…
Phone Number (MDN/MIN)	data for the selected MDN in tables entitled "Most Recent Contract" and "Work Orders"
Equipment (ENS/SIM/IMEI)	data for selected equipment in tables entitled "Most Recent Contract" and "Work Orders"
Contract ID	Contract – General screen.
Dealer ID 2000 (Firefly)	Dealer – General screen
Work Order ID	Work Orders table showing high-level details and a magnifying glass (🔍) icon that links to Work Order Details.

Tip: FF-CSMS displays a list of your most recent searches next to the FIND box. Simply select one of the items and FF-CSMS will complete the FIND box for you.

| 16:33 WorkOrder.......... 14437 |
| 16:33 DealerNumber.. 2000 |
| 16:30 ContractID............ 25104 |
| 16:26 Equipment........... 89014103100361012577 |

Look in: WorkOrder ID
For: 14437 GO

3.4.3   Tour the FF-CSMS Menus

For most of your work, you will be using the Find Box to search for a specific MDN. However, it can be useful to review the table below, which indicates which menus can be used to view Firefly data.

Note: The remaining menus are enabled but will not display information that is useful or meaningful for Firefly.

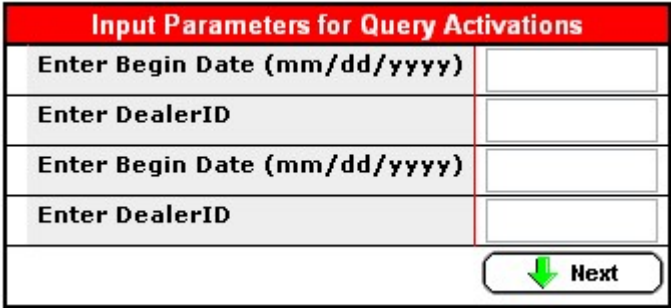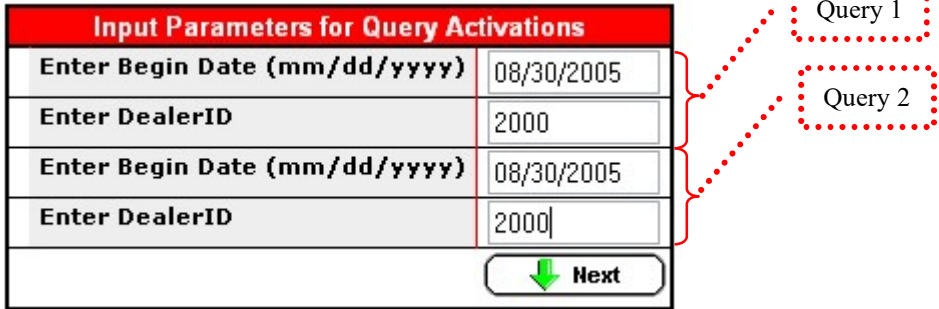| Menu	Accessed By:	Used for:
Dealer – General	Use Find Box to search for Dealer ID 2000 (Firefly).	Accessing Dealer menu options: • **Work Orders** – Displays recent work orders for dealer. The magnifying glass (🔍) icon links to the Contract – General screen for the selected work order. • **Market Info** – Displays table showing Market ID, Market Name, and carrier system used to manage the lines (Telegence or CARE). *Tip:* Telegence Market IDs fall between 900 and 999; CARE Market IDs fall between 1000 and 1099. • **Open Contract** – Activates a phone
Contract – General	Click 🔍 icon on Dealer – Work Orders screen.	Accessing Contract menu options: • **Work Order** – Displays recent work orders associated with Contract ID. The magnifying glass (🔍) icon links to the Work Order Details screen. • **Create Work Order** – Click to open a new work order. *Tip:* In the pre-paid cell phone industry, the terms *contract* and *contract ID* are used to refer to a customer, who is not required to sign a contract or provide a name.
Report	Click Report option in top menu.	Accessing Report menu options: • Pending Work Orders – Displays work orders that are in process or have generated an error. • Phone Number Manager – Displays phone numbers available for an area code. • Custom Queries (For more details, see the next section.)

3.4.4 Explore the FF-CSMS Custom Queries

FF-CSMS offers a number of pre-defined queries to help you find information you will need to handle Sentinel tickets.

Note: A final query, "Work Orders by Inbox," allows R&D to retrieve work orders by any of the values shown in the Work Order Inbox. You can see the Work Order Inbox by clicking the magnifying glass icon (🔍) by any work order but you will not need to use this query in your work.
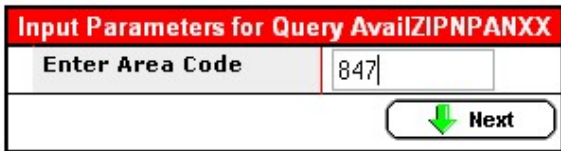
3.4.4.1 Run the Activations Query

Step	Action
1.	Log on to FF-CSMS, if you aren't logged on already. (See Section 3.4.1, Log on to FF-CSMS on page 16.)
2.	Click "Report" and then click "Custom Queries."
3.	Click the Run button by the first option, "Activations." *The system displays an input form, which represents two queries of the database. One query shows total activations for all markets and the other query shows the activations per market.*
4.	Complete the input form. • Enter the same date in both of the fields labeled "Enter Begin Date (mm/dd/yyyy)." • Enter the same dealer ID (2000) in the fields labeled "Enter DealerID" The completed form should look like the screen capture below.
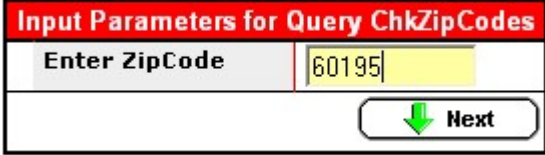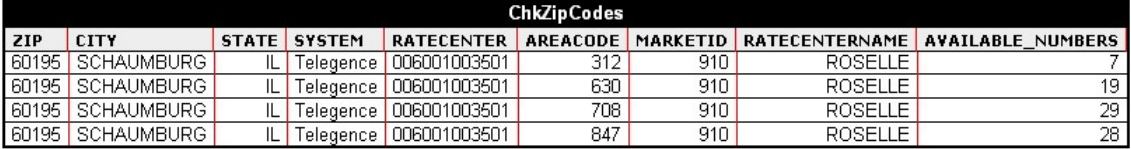
Step	Action
5.	Click the "Next" button.
	The system displays the report. The total for all markets is followed by the totals per market.

Activations	
MARKETNAME	**ACTIVATIONS**
All Markets	131
Care / Illinois	0
Cingular-Alask/Hawaii	1
Cingular-Arkansas	0
Cingular-Atlanta	2
Cingular-Austin, TX	1
Cingular-Baton Rouge	0
Cingular-Birmingham	1
Cingular-Boston, MA	8

3.4.4.2 Run the AvailZIPMPANXX Query

Firefly uses the customer's ZIP code to determine (a) whether coverage is available and (b) an appropriate area code. Customers often want a specific area code and prefix, either for personal reasons or to avoid long-distance charges for calls made to the Firefly phone.

Step	Action
6.	Log on to FF-CSMS, if you aren't logged on already. (See Section 3.4.1, Log on to FF-CSMS on page 16.)
7.	Click "Report" and then click "Custom Queries."
8.	Click the "Run" button by "AvailZIPMPANXX."
	The system displays an input form.
9.	Enter an area code

Input Parameters for Query AvailZIPNPANXX

Enter Area Code	847
	⬇ Next

Step	Action
10.	Click "Next."
	The system displays a table showing all the ZIP Codes that correspond to the area code you entered, as well as the corresponding communities and prefixes.

AvailZIPNPANXX			
COMMUNITY	**ZIPCODE**	**AREACODE**	**AVAILABLE_PHONE_NUMBERS**
HINSDALE	60128	847	847-207-XXXX
HINSDALE	60516	847	847-207-XXXX
HINSDALE	60527	847	847-207-XXXX
HINSDALE	60539	847	847-207-XXXX
ROSELLE	60004	847	847-254-XXXX
ROSELLE	60005	847	847-254-XXXX
ROSELLE	60006	847	847-254-XXXX
ROSELLE	60007	847	847-254-XXXX

3.4.4.3   Run the ChkZipCodes Query

Step	Action
1.	Log on to FF-CSMS, if you aren't logged on already. (See Section 3.4.1, Log on to FF-CSMS on page 16.)
2.	Click "Report" and then click "Custom Queries."
3.	Click the "Run" button by "ChkZipCodes." *The system displays an input form.*
4.	Enter a ZIP Code. **Input Parameters for Query ChkZipCodes** **Enter ZipCode** 60195 ⬇ Next
5.	Click "Next." *The system displays a table showing all the cities, area codes, and market IDs for that ZIP Code, as well as the Cingular API (Telegence or CARE), rate center code, rate center name, and the number of available numbers for each area code.*

ChkZipCodes								
ZIP	CITY	STATE	SYSTEM	RATECENTER	AREACODE	MARKETID	RATECENTERNAME	AVAILABLE_NUMBERS
60195	SCHAUMBURG	IL	Telegence	006001003501	312	910	ROSELLE	7
60195	SCHAUMBURG	IL	Telegence	006001003501	630	910	ROSELLE	19
60195	SCHAUMBURG	IL	Telegence	006001003501	708	910	ROSELLE	29
60195	SCHAUMBURG	IL	Telegence	006001003501	847	910	ROSELLE	28

3.4.4.4   Run the Find_SIM_IMEI_PIN Query

Step	Action
1.	Log on to FF-CSMS, if you aren't logged on already. (See Section 3.4.1, Log on to FF-CSMS on page 16.)
2.	Click "Report" and then click "Custom Queries."
3.	Click the "Run" button by "Find_SIM_IMEI_PIN." *The system displays an input form.*
4.	Enter a SIM, IMEI, or PIN (activation code). (In this example, we have entered a SIM.) **Input Parameters for Query Find_SIM_IMEI_PIN** **Enter Search String** 00452519423 ⬇ Next

Step	Action
5.	Click the "Next" button.
	The system displays the activation code (PIN), the IMEI, SIM, and its activation status.

Find_SIM_IMEI_PIN			
ACTIVATION_CODE	**IMEI**	**SIM**	**ACTIVATION_STATUS**
0333179	010492000401163	89014103100452519423	Activated

3.4.4.5   Run the Phone Bank Query

Step	Action
6.	Log on to FF-CSMS, if you aren't logged on already. (See Section 3.4.1, Log on to FF-CSMS on page 16.)
7.	Click "Report" and then click "Custom Queries."
8.	Click the "Run" button by "Phone Bank."
	The system displays an input form.
9.	Enter an area code (NPA).
	Input Parameters for Query Phone Bank
	Enter NPA 847
	⬇ Next
10.	Click "Next."
	The system displays a table showing the rate centers, market IDs, market codes, and the number of available numbers.

Phone Bank				
RATECENTER	**AREACODE**	**NUMNUMBERS**	**MARKETID**	**MARKETCODE**
005958003492	847	8	910	ILL
006001003501	847	21	910	ILL
006023003461	847	24	910	ILL

3.4.4.6   Run the WebStoreZipCodes Query

This query displays a report that shows the entire list of ZIP Codes, cities, states, and area codes that are sent to Firefly Mobile web site. The customer's ZIP Code is used to confirm coverage and identify an appropriate area code.
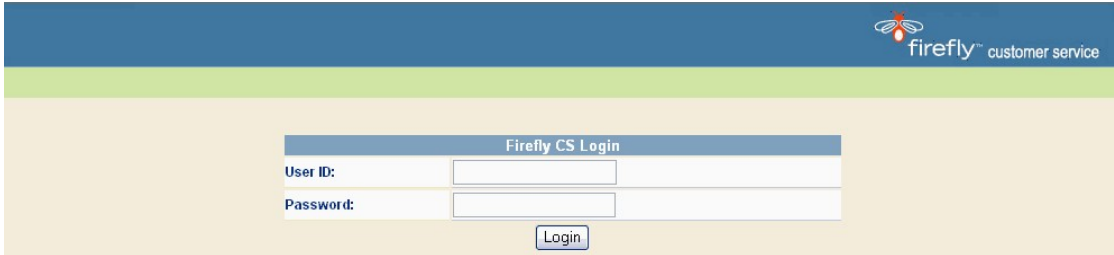
⚠️ *Caution:* This query produces a 600-page report that taxes server resources.

Step	Action
1.	Log on to FF-CSMS, if you aren't logged on already. (See Section 3.4.1, Log on to FF-CSMS on page 16.)
2.	Click "Report" and then click "Custom Queries."

Step	Action
3.	Click the "Run" button by "WebStoreZipCodes."

The system displays the report.

WebStoreZipCodes			
ZIP	CITY	STATE	AREACODE
00501	HOLTSVILLE	NY	631
00544	HOLTSVILLE	NY	631
00601	ADJUNTAS	PR	787
00602	AGUADA	PR	787
00603	AGUADILLA	PR	787

3.5 Tour the ComSpan GUI
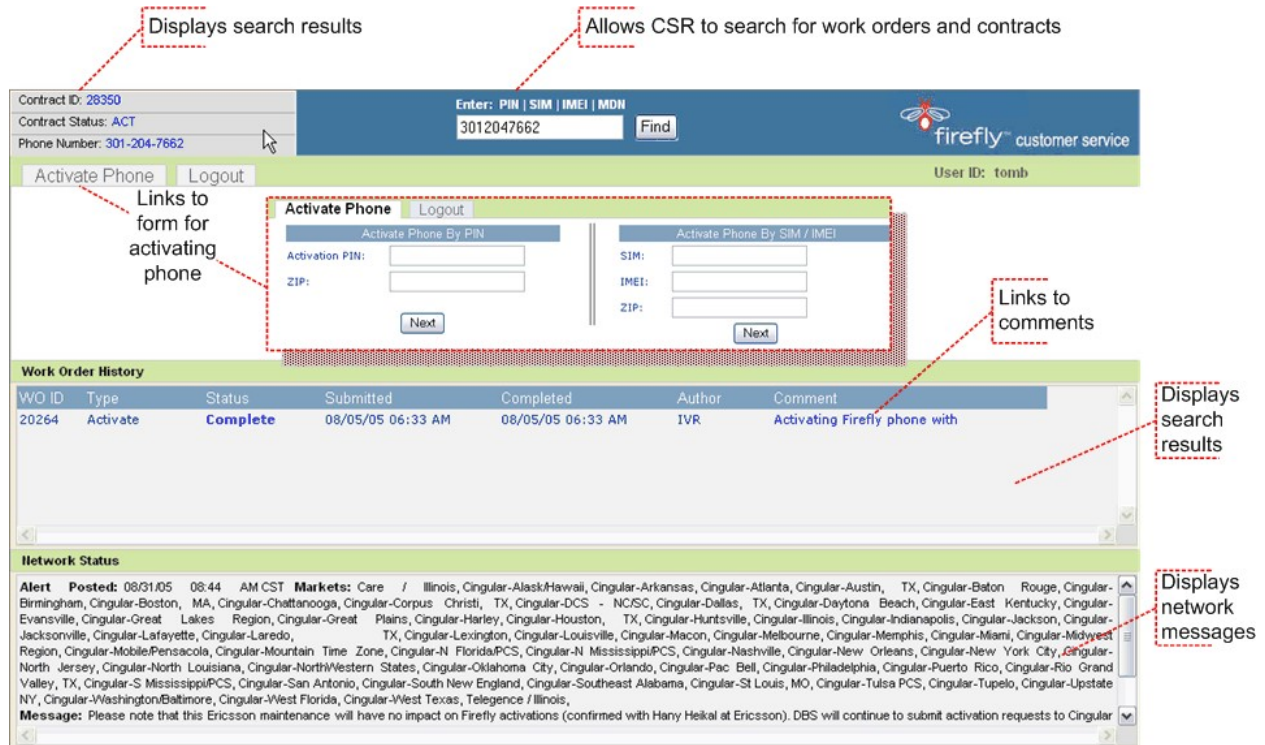
3.5.1 Log on to the ComSpan GUI

Step	Action
1.	Point your browser at the bookmark you created for the primary URL for the ComSpan GUI: https://firefly.dbsnow.com/ComspanCS/
2.	Enter your user name and password at the log on screen. **Firefly CS Login** User ID: Password: Login *Note:* Every user should be logging on with an individual account. If you do not have a user name and password, contact your manager. *The ComSpan GUI appears.*

3.5.2 Review the ComSpan GUI

As this screen capture shows, the ComSpan GUI provides the CSRs limited access to the FF-CSMS functionality.

The network status area at the bottom of the screen displays information about global and local outages that may affect activations and other processing. See Section 4.13, Using Message Manager on page 66 for details on updating, creating, and deleting these messages.
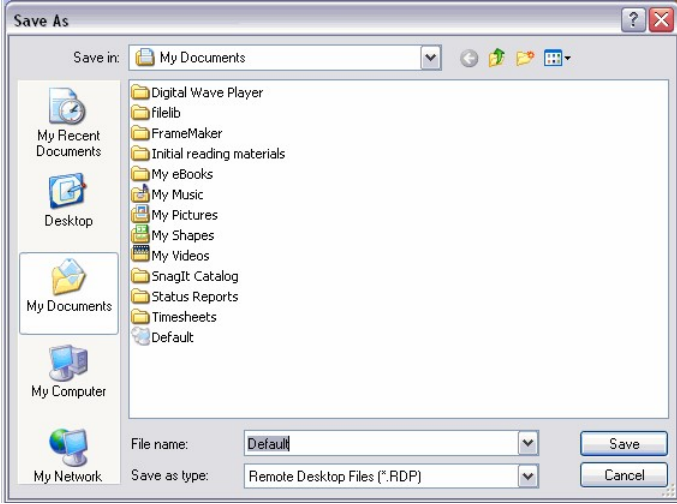
3.6   Configure the Remote Desktop

The majority of your tasks should be performed through FF-CSMS. On occasion, however, you will also need to use the Remote Desktop Connection to log on to Cingular and Ericsson applications.

Before you begin working, you should configure the Remote Desktop Connection and become familiar with the applications. In this section, you'll learn how to configure the Remote Desktop Connection.

Step	Action
1.	Start the Remote Desktop by selecting: Start > All Programs > Accessories > Communications > Remote Desktop Connection *The Remote Desktop application starts.*
2.	Enter the IP address of the CHIWIN 02 server in the "Computer" field: **172.18.130.81**

Step	Action
3.	Click the "Options" button and, on the General tab, enter your user name and password and click the check box by "Save my password."

Note: Every user should be logging on with an individual account. If you do not have a user name and password, contact your manager.

Step	Action
4.	Click "Save As." *The Save As dialog appears.* Replace the default file name, if desired, and click "Save." *Note:* The next time you log on to the Remote Desktop, the Remote Desktop File will fill in the IP address, your user name, and password. To log on, you will only need to click the "Connect" button.
5.	Click the "Options" button to hide the tabbed dialog box again and then click the "Connect" button to establish the connection. *The remote desktop will appear in full-screen mode.*
6.	Review the remote desktop. At the top of the screen, you will see a small tab. The center will display the IP address of the remote desktop and the right corner will display the Minimize, Maximize, and Close icons displayed on Windows applications. *Tip:* If you need to switch between the remote desktop and your DBS desktop, click the Minimize icon on the remote desktop and you will be able to access your DBS desktop.
7.	Open Internet Explorer by selecting: Start > All Programs > Internet Explorer. *The browse appears and displays the default home page.*
8.	Log on to Telegence, CARE, and the Ericsson Reseller Prepaid CARE system. (See Sections 3.7, 3.8, and 3.9 for details.)

3.7   Log On to Telegence

Step	Action
1.	Start the Remote Desktop by selecting: Start > All Programs > Accessories > Communications > Remote Desktop Connection *The Remote Desktop application starts.* *Note:* If you haven't configured the remote desktop connection yet, see Section 3.6, Configure the Remote Desktop on page 25.
2.	Point the browser at the URL: https://telegence *Tip:* To speed up the login, create a bookmark for the URL. *The system displays a security alert.* Click Yes. *The system displays a second security alert.* Click Yes. *The system displays the Citrix Web interface login.*
3.	Log in as Anonymous and click the "Login" button. *The Citrix Web interface displays the Applications folder.*

Step	Action

4.	Open the Telegence application.
	
	• Click the Telegence folder and then click the Telegence icon.
	  The system will display the File Download dialog box.
	
	• Click "Yes" to open the file.
	  The system will display the Unauthorized Access Prohibited dialog box.
	
	• Click OK.
	
	The system will display the Telegence Wireless Button Bar 2.

5.	Click the Direct Market tab and then click the icon by a specific market. *The system will display a login screen.*
6.	Type your user name, press [Tab] and type your password. *The system will fill in the remaining fields.* Click OK. *Note:* Every user should be logging on to the market with an individual account. If you do not have a user name and password, contact your manager. *Caution:* Telegence will lock the account after three login attempts. • If your first attempt to login fails, close the application and restart it. • If the account is locked, open a ticket with Cingular to have the password reset. *The market will open so that you can do your work.*

3.8   Log On to CARE

Step	Action
1.	Start the Remote Desktop by selecting: **Start > All Programs > Accessories > Communications > Remote Desktop Connection** *The Remote Desktop application starts.* *Note:* If you haven't configured the remote desktop connection yet, see Section 3.6, Configure the Remote Desktop on page 25.
1.	Point the browser at the URL: <u>https://telegence</u> *The Citrix Web interface login appears.* *Tip:* To speed up the login, create a bookmark for the URL.
2.	Log in as Anonymous and click the "Login" button. *The Citrix Web interface displays a folder of links to Cingular applications.*
3.	Click the CARE link. *A message box appears.*
4.	Select Open. *The system displays a list of markets.*
5.	Select a market. *The system displays a login screen.*
6.	Enter your user name and password and click OK. *Note:* Every user should be logging on to the market with an individual account. If you do not have a user name and password, contact your manager. The system will open so that you can do enter an MDN and do your work.

3.9   Log on to the Ericsson Reseller Prepaid CARE System

Step	Action
1.	Start the Remote Desktop by selecting: **Start > All Programs > Accessories > Communications > Remote Desktop Connection** *The Remote Desktop application starts.* *Note:* If you haven't configured the remote desktop connection yet, see Section 3.6, Configure the Remote Desktop on page 25.
2.	Point the browser at the URL: https://199.59.12.194/webrc/ *The system displays a login screen.* *Tip:* To speed up the login, create a bookmark for the URL.
3.	Enter your user name and password and click OK. *Note:* Every user should be logging on to the market with an individual account. If you do not have a user name and password, contact your manager. The system will open, so that you can search by an MDN and retrieve the information you need.
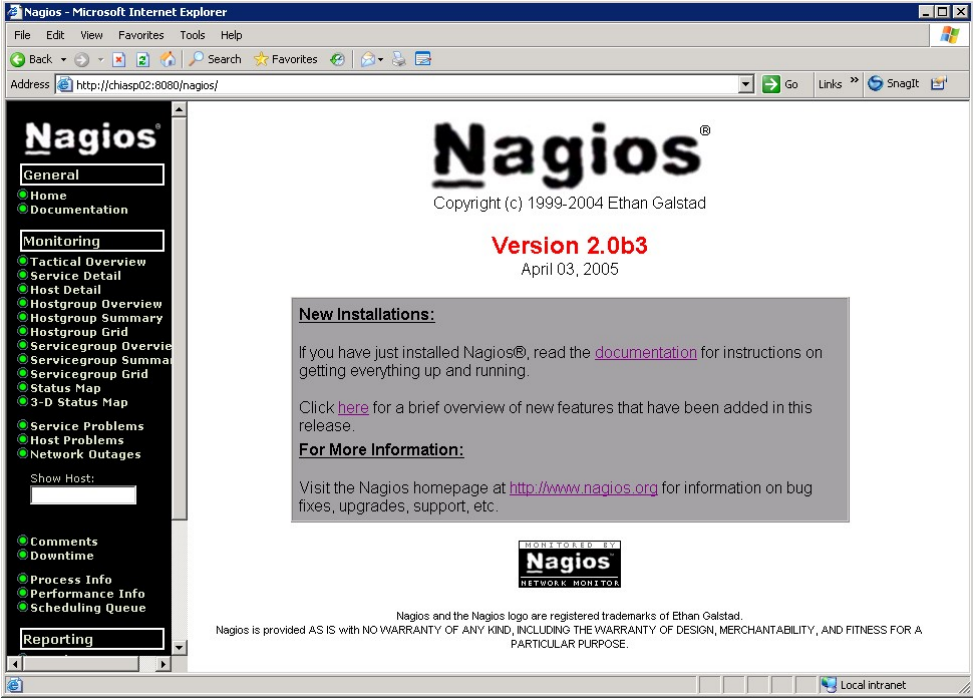
3.10 Tour Nagios

Nagios is a host and service monitor designed to inform you of host, service, and network problems. Its monitoring daemon runs intermittent checks on hosts and services, and returns status information to Nagios. When Nagios detects a problem with the system, it sends out a notification so that you can investigate the problem. TSS is designated to get several types of Nagios notifications.

3.10.1 Logging on to Nagios

To log on to Nagios, use this procedure:

Step	Action
1.	Point the browser at the URL: `http://CHIASP02:8080/nagios` *The Nagios screen appears.*
2.	Click on the desired link in the navigation pane on the left side of the screen. *You are prompted for a User Name and Password.* *Note:* You are not prompted for a User Name and Password if you click on the "Home" link or the "Documentation" link.
3.	Enter your User Name and Password and click OK. *The screen you selected appears.*

3.10.2 Viewing Host and Service Information

You can view host and service information using screens provided by Nagios. Status information is color coded:

- Green = OK
- Yellow = Warning
- Red = Critical
- Orange = Status Unknown

Step	Action
1.	To view the status of the host servers, click the "Host Detail" link on the left side of the screen. *The list of monitored host servers and their status appears on the screen.*
2.	To view the status of services, click the "Service Detail" link on the left side of the screen. *The list of monitored services and their status appears on the screen.*

3.	To view current problems for all services, click the "Service Problems" link on the left side of the screen. *A list of current service problems, if any, appears on the screen.*
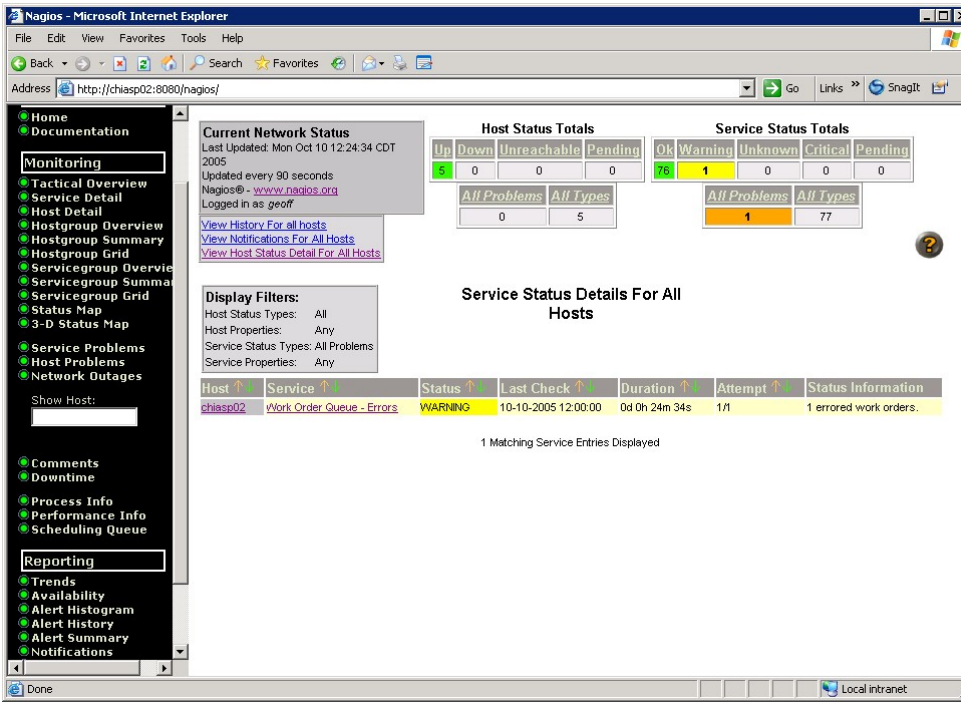
3.10.3 Acknowledging a Notification

When you acknowledge a service problem, future notifications about that problem are temporarily disabled until the service changes from its current state.

To acknowledge a notification from Nagios and prevent Nagios from sending more notifications regarding the same service problem, use this procedure:

Step	Action
1.	Log on to Nagios. See 3.10.1, Logging on to Nagios on page 32.
2.	Click on the "Service Problems" link on the left side of the screen.
3.	Enter your User Name and Password when prompted. *You are logged on to Nagios and a list of service problems appears on the screen.*
4.	Select the service you want to acknowledge by clicking on its name. *A screen appears with detailed information about the service you selected.*

5.	Click the "Acknowledge this service problem" link on the right side of the screen.
	A Command Options screen appears.
6.	Enter a comment in the Comments field indicating how you are resolving the problem.
7.	Click the Commit button.
	The problem is acknowledged and Nagios does not send any more notifications about the problem.
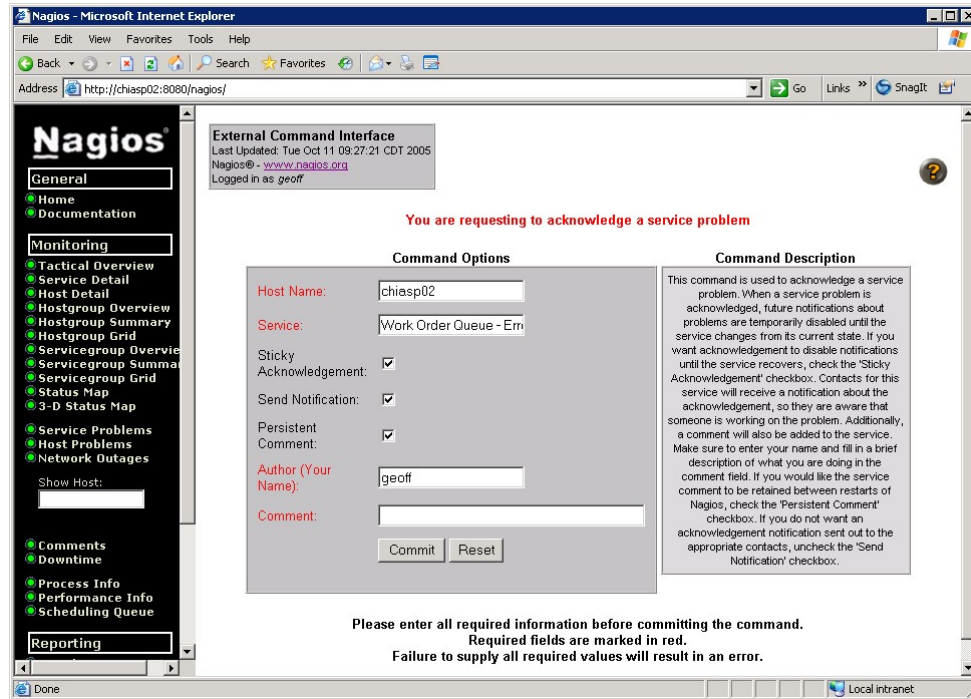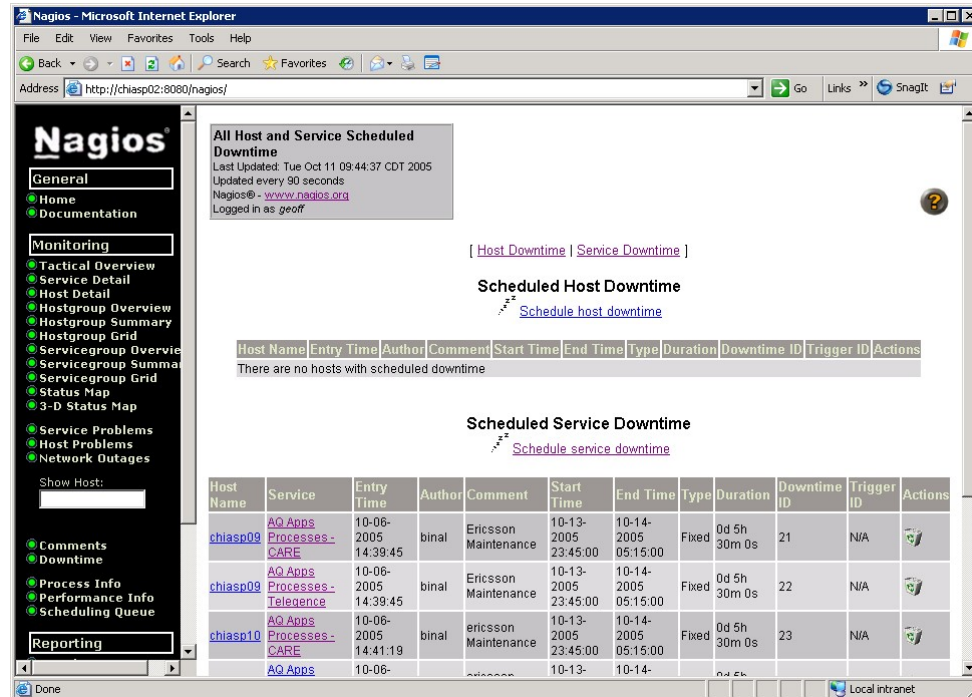
3.10.4 Viewing Scheduled Down Time in Nagios

To view scheduled down times that have been entered in Nagios, use this procedure:

Step	Action
1.	Log on to Nagios. See Section 3.10.1, Logging on to Nagios on page 32.

2.	Click the "Downtime" link that appears on the left side of the screen.
	A screen appears that shows the all scheduled down time for hosts and services.

3.10.5 Canceling Scheduled Down Time in Nagios

To cancel scheduled down times that have been entered in Nagios, use this procedure:

Step	Action
1.	Log on to Nagios. See Section 3.10.1, Logging on to Nagios on page 32.
2.	Click the "Downtime" link that appears on the left side of the screen. *A screen appears that shows the all scheduled down time for hosts and services.*
3.	In the Actions column, click the 🗑 icon for the down time you want to cancel. *A Confirmation screen appears.*
4.	Click the Commit button to cancel the down time.

3.11 Review the ComSpan Troubleshooting Tools

As Tier 1 Support, the ComSpan CSRs have a number of troubleshooting tools they can use to determine whether they need to open a Sentinel ticket.

Tool	Troubleshooting Capability
ComSpan GUI	• **Confirm the MDN.** ○ If the customer completed the activation (or is not sure) and has a question about the assigned MDN, the CSR can use the PIN to confirm the MDN. ○ If the customer got confused or made an error when trying to activate the phone, the CSR can use the ComSpan GUI to activate the phone. • **Search for an activation work order and confirm its status.** ○ If the system displays a work order but no contract ID, the activation did not complete. The CSR may be able to correct the problem by repeating the activation. ○ If the system displays an error status for a work order, the CSR can follow the escalation process and open a Sentinel ticket. • **Search for network issues.** ○ If the network status area displays a global or local network issue, the CSR can advise the customer and follow the escalation process to open a Sentinel ticket.
Ericsson Reseller Prepaid CARE	• **Search by MDN.** ○ If the system has a record of the MDN, this indicates the activation was completed. If there is no record, the CSR will need to open a Sentinel ticket to have TSS investigate the issue. ○ If the system indicates the contract has run out of time or money, the system will suspend the contract, meaning the customer cannot use the phone to make or receive calls.
Customer on phone	• **Ability to ask the customer: How many bars is the phone displaying?** If the customer has a weak signal (indicated by fewer bars), the CSR can suggest the customer go a location where they can get a stronger signal. • **Ability to ask the customer: Can the phone receive an incoming call? Make an outgoing call?** If the customer says "no," the CSR has been trained to troubleshoot problems with the phone hardware and its features. For example, the CSR can determine if the customer has inadvertently activated the call screening feature, which limits incoming and outgoing calls to phone numbers that have been programmed into the phone book. Call screening is a phone feature and has nothing to do with the Cingular network or DBS systems. The CSR should be able to explain call screening and help customers set it up. • **Ability to ask the customer to "power cycle" the phone.** A "power cycle" (turning the phone off, waiting 15 seconds, and then turning it on again) is equivalent to rebooting a computer and sometimes solves phone problems.

3.12 Review a Sentinel Ticket

When Sentinel receives a ticket from ComSpan, they assign it a seven-digit ticket number and forward it to DBS at the Outlook mailbox Firefly-Issues@dbsnow.com. This is a shared mailbox that can be accessed by all members of the TSS team. This page and the next will highlight the key components of a ticket.

Notes:

- If you don't have access to this mailbox, contact your manager.
- Be sure to use send all updates and emails concerning Sentinel tickets from the shared Firefly-Issues mailbox, so that other members of TSS can continue to work on the ticket after you have finished your shift.

Work order number   Sentinel ticket number   Firefly MDN

From: Hilliard, Kimberly [mailto:khilliar@sentinel.com] **On Behalf Of** FireFly
Sent: Friday, September 02, 2005 10:44 AM
To: Firefly TSS
Subject: michiharu Ariza wo#31164/ticket#1295770 mdn#408-439-9772

New ticket.

Kim Hilliard

-----Original Message-----
From: Brandi Wright [mailto:brandi.wright@cmspan.net]
Sent: Friday, September 02, 2005 10:30 AM
To: firefly-issues@dbsnow.com
Subject: Escalation Ticket.xls

Figure 2 Email showing Sentinel ticket number

Tech Support Ticket

ComSpan work order number

WORK ORDER NUMBER: 31164

Customer:	Michiharu Ariza
Contact #:	408-996-7085
Zip Code:	95014
Firefly MDN:	408-439-9772
Activated How?	IVR

Current Firefly MDN

me: Brandi Wright

me: Nichole M

Type of issue: (must check one)

	Activation Problem
	Login Issues
	MDN Change
	Network Issues
	SIM Change — *Manager Approval*
	Suspend account — *Manager Approval*
	System Issues
X	Other

Checklist of typical issues

Note items that require manager approval.

ALL ISSUES

Describe issue:

Customer not in Ericson Reseller, Not associated with a valid PPS subscriber.

When does it happen?

na

How many times?

na

What is the catalyst?

na

What happens - clicking, hang up, recording? Please describe!

na

Background information that will help you work on the ticket

Activation information

ACTIVATIONS

Firefly Activation PIN (Actv issues only)	1698426
Customer ZIP (Actv issues only)	95014
Desired Area Code:	408

Figure 3 The Sentinel Ticket, Part 2

3.13 Maintain the TSS Log

TSS maintains a log of its work in an Excel workbook that is stored on the network at:

`P:\Quality Assurance\Firefly TSS_Help Desk\Ticket Log 7-06.xls`

The workbook contains three worksheets:

- **Help Desk Open Tickets:** Shows open tickets in magenta and high-priority tickets in red.
- **Help Desk Closed Tickets:** Displays closed tickets that have been moved from the open-ticket worksheet and color-coded green.
- **Non-Sentinel Tickets – TSS Closed:** Logs issues with DBS systems.

Figure 4 Sample TSS Log Entry shows a sample entry concerning an activation issue in a CARE market.

- **Date/Time Called.** This field shows the time TSS received notice of the issue and is used to calculate the two-hour response time specified in the Escalation Process. (See Section 2.3, The Firefly-DBS Escalation Process on page 8.)
- **Problem.** The description should begin with the Sentinel ticket number and Firefly MDN.
- **Contact.** This field is used to record a specific contact, such as a ComSpan manager, if needed.
- **Solution.** This field summarizes steps used to resolve the issue.
- **Date/Time Resolved.** This field documents the time an issue was resolved or it documents TSS efforts to resolve the issue within the two-hour time limit stipulated by the escalation process.

DATE/TIME CALLED	PROBLEM	CONTACT	SOLUTION	DATE/TIME RESOLVED
9/5/2005 8:48am	**VO-31940 ticket 1296002 MDN 215-531-0373** Problem: Customer's phone says "limited service" after a power-cycle & manual reset. She is getting a message on her phone saying "this wireless subscriber is not available" when she calls the Firefly. However, when I or my supervisor called the phone, we just got a fast busy signal. Ericsson and the DBS activation look fine.		I called Cingular and they did disconnect/reconnect on the phone. Please have customer power cycle the phone outside of their home.	waiting for Comspan to verify with customer if the phone is working or not

Figure 4 Sample TSS Log Entry

4   GETTING TO WORK

4.1   Handling External Clients

If you have experience supporting DBS clients, you are already familiar with basic industry standards for support and customer service. You also need to be aware of the challenges that are unique to the Firefly account:

- **Firefly and ComSpan are *external* clients that are paying DBS for its services.** Like any consumer, they expect to be treated with tact and professionalism. They will also expect you to meet the time standards documented in Section 2.3, The Firefly-DBS Escalation Process on page 8 and in Section 2.4, The DBS-IVR Escalation Process on page 11.

- **ComSpan is responsible for customer service.** This means that the CSRs are the only personnel who should speak directly to a Firefly customer. If you need additional information, request it by updating the ticket or by calling the CSR, but *never* call the customer directly.

- **The ComSpan CSRs have been trained to answers questions about using the Firefly phone.** TSS does *not* have this training and should *never* attempt to help a customer with hardware issues.

- **If you encounter a situation that is *not* covered by this manual,** contact your manager for guidelines.

4.2 Check the Pending Work Orders Report

Most of your work will involve responding to Sentinel tickets. However, you are also responsible for being proactive in monitoring the performance of FF-CSMS and related components. Two tools will help you monitor the system performance in processing *work orders* submitted through FF-CSMS to the carrier:

- **The Nagios open source host, service and network monitoring program** checks for work order processing errors once an hour and for system availability every two minutes. If Nagios encounters an error, it sends an email to FireflyAlerts@dbsnow.com (DBS R&D) and Firefly-Issues@dbsnow.com (Sentinel).

- **The Pending Work Orders Report** shows work orders that have a status of "PRCSS" (processing) or "ERROR." This report is produced by the Line Provisioner State Machine, which manages the processing of work orders.

Note: You should check the Pending Orders Report at the beginning of the morning shift—to be sure neither DBS nor Cingular systems encountered problems during the night—and continue checking periodically during the day.

To check the Pending Work Orders Report, use this procedure.

Step	Action
1.	Log on to FF-CSMS, if you are not already logged on. (See Section 3.4.1, Log on to FF-CSMS on page 16.)
2.	Click Report and then click Pending Work Orders. *The system displays a table of pending work orders (if there are any).* **Pending WorkOrders** 	OrderID	Contract	Dealer	Type	Submitted	Completed	Status	Comment	Errors	 |---|---|---|---|---|---|---|---|---| 	15857		2000	OPENZ	07/24/2005 05:53am	null	ERROR	Activating Firefly phone with SIM 89014103100452577462, IMEI 010492000240702, activation code 6125745, zip code 46552, phone number 5742529225	com.dbs.lineprovisioner.core.LineProvisionerException: Message Code was not found for Carrier Id: 900, message: USEC transaction error. at com.dbs.lineprovisioner.app.StateControllerApp.processMessage (StateControllerApp.java:148) at com.dbs.lineprovisioner.app.QueueAppBase.run (QueueAppBase.java:246) at com.dbs.lineprovisioner.app.QueueAppRunner.startAll (QueueAppRunner.java:41) at com.dbs.lineprovisioner.app.QueueAppRunner.main (QueueAppRunner.java:160)	
3.	(Optional) To filter the list, complete the Filter Options form at the top of the report. **Filter Options** Order By: Submit Date Sort: Z -> A Limit: 25 Apply Filter - Under "Order By," select either "Submit Date" or "Complete Date." - Under "Sort," select "Z -> A" or "A->Z." - Under "Limit," select "25," "50," "100," "200," "500," or "All." - Click the "Apply Filter" button.

Step	Action
4.	Resubmit the work orders that have a status of "Errored." • Select the check box by each of the work orders with a status of "Errored" (shown in red) and then click the "Resubmit" button. *The system will check to see if anyone else has resubmitted the work order and then display a message box for those work orders that have already been submitted.* • If a work order completes, no further action is needed. • If a work order returns a status of "Errored" again, go to step 6.
5.	Review the work orders with a status of "Processing" (shown in orange). • Note the time the work order was submitted. *The Line Provisioner State Machine will resubmit a work order for up to six hours before returning an error.* • If the processing time is over an hour, this may indicate a problem, either with a DBS component or the carrier. Go to step 6.
6.	Determine whether there is a known technical problem, either with a DBS component or the carrier. o Review the IT Alerts (emails). o Contact Tech Ops at DBS to determine if they are experiencing similar problems. o Send an email to R&D at FireflyAlert@dbsnow.com so that they can investigate. If there is a technical problem that cannot be corrected quickly, alert ComSpan by adding a message to the Network Status area of the ComSpan GUI. For more information, see Section 4.13, Using Message Manager on page 66.

4.3 Handling Authorities' Request for Firefly Information

If a child is lost or missing, local, state, or federal authorities may request Firefly information to help them find the child. These requests can be divided into two categories:

- Using triangulation to locate the Firefly phone
- Obtaining a subpoena for call detail records

4.3.1 Triangulating the Location of a Firefly phone

Triangulation uses signals between the cell phone and nearby towers to determine the phone's location. The ComSpan CSRs (Tier 1 Support) have been trained to handle these requests without opening a ticket with Sentinel.

If a ticket for triangulating the location of a Firefly phone is inadvertently dispatched to TSS, follow this procedure:

Step	Action
1.	Follow the ComSpan Tier 1 support procedure: 1. Ask the authorities to call the Cingular Wireless National Compliance Center at 1-800-635-6840 and ask the Center to triangulate the phone's location. 2. Remind the authorities that the triangulation process only works if the phone is turned on.
2.	Update the ticket by sending an email to Sentinel and ask that Sentinel remind ComSpan (Tier 1 Support) that they can handle these tickets without waiting for assistance from TSS.
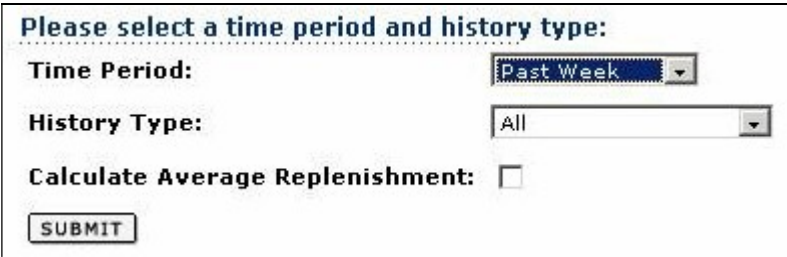
4.3.2 Handling Subpoenas for Call Detail Record Information
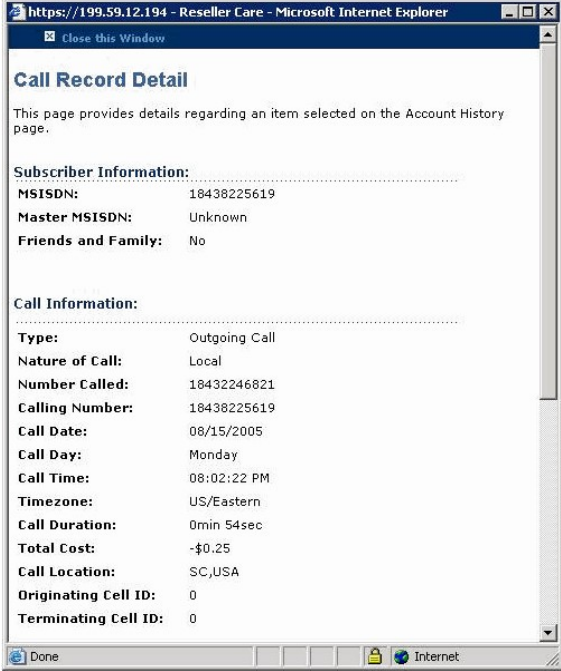
A *subpoena* is a written court order requiring the person named in the subpoena to testify in court and/or produce a paper, document, or other object relevant to a legal proceeding. In these situations, the ComSpan CSRs (Tier 1 Support) have been trained to ask the authorities to:

1. Call the DBS Firefly Group (TSS Support) at 1-847-879-8834.
2. Fax the subpoena to the DBS Firefly Group at 888-749-3530.

If you receive a call from authorities who have a subpoena for call detail record information, follow this procedure.

Step	Action
1.	Note the name and phone number of the person making the call and indicate you will call them to confirm the fax of the records.
2.	Confirm the authorities have faxed the subpoena to DBS TSS at 888-949-3530.
3.	Login to the Ericsson Reseller Prepaid CARE system. (See Section 3.9, Log on to the Ericsson Reseller Prepaid CARE System on page 31 for details.)

Step	Action
4.	Enter the Firefly MDN in the "Wireless Number" field and click "Submit." *The system displays the "Account Details" screen.*
5.	Click the "Account History" link in the "Reseller Care" menu. *The system displays the "Account History" screen.*
6.	Select a time period and click the "Submit" button. *The system displays the Account History Detail screen showing a list of transactions.*

Step	Action
7.	Click the ⓘ by a record to view detailed information about the transaction. **Account History Detail:** | Date	Time	Transaction Description	Transaction Amount	Info
------	------	------------------------	-------------------	------
08/15/2005	07:02:22 PM CDT	Outgoing Call	-$0.25	ⓘ
08/15/2005	06:20:15 PM CDT	Incoming Call	-$0.25	ⓘ	 *The system displays the "Call Record Detail" window.* **https://199.59.12.194 - Reseller Care - Microsoft Internet Explorer** ☒ Close this Window **Call Record Detail** This page provides details regarding an item selected on the Account History page. **Subscriber Information:** MSISDN: 18438225619 Master MSISDN: Unknown Friends and Family: No **Call Information:** Type: Outgoing Call Nature of Call: Local Number Called: 18432246821 Calling Number: 18438225619 Call Date: 08/15/2005 Call Day: Monday Call Time: 08:02:22 PM Timezone: US/Eastern Call Duration: 0min 54sec Total Cost: -$0.25 Call Location: SC,USA Originating Cell ID: 0 Terminating Cell ID: 0 Done Internet
8.	Right-click on the window and select "Print" from the menu. Once the record has printed, close the window.
9.	Repeat steps 7 and 8 until you have printed all the records required by the subpoena.
10.	Fax the records to the authorities.
11.	Retain copies of all information exchanged in these requests.

4.4 Handling Sentinel Tickets for Activation Issues

ComSpan Customer Service (Tier 1 Support) learns of activation problems in two ways:

- The DBS Firefly IVR encounters a system or user error and transfers the call to a CSR.

- The customer completes the activation but calls ComSpan Customer Service with a question or problem, such as the inability to make or receive calls.

As indicated in Section 3.11, Review the ComSpan Troubleshooting Tools on page 39, the CSR can perform a limited amount of troubleshooting. For many issues, however, ComSpan will need to open a ticket with Sentinel.

4.4.1 Handling Tickets about IVR Issues

If a caller reports that the IVR disconnects the call or does anything besides delivering a greeting from the activation IVR, the CSR should open a ticket with Sentinel.

Note: The only IVR function that DBS and Intervoice support for Firefly is the activation function. If a customer reports an issue with any other IVR function (such as trying to load additional airtime), the CSR should *not* open a ticket with Sentinel.
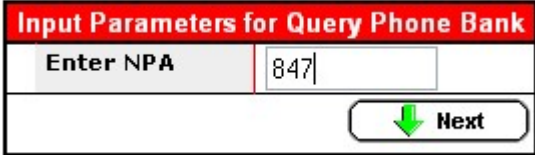
To handle a ticket for an IVR issue, use this procedure.

Step	Action
1.	Confirm there is a problem with the IVR. • Call 1-800-Firefly and select the option to activate a new phone. • If the activation IVR does not respond with a greeting, call the activation IVR directly at 1-214-561-0505. o If you receive the greeting, update the Sentinel ticket and ask that ComSpan confirm that the primary IVR and telephony connections are in working order. o If you do *not* receive the greeting or if ComSpan confirms the primary IVR and telephony connections are in working order, go to the next step.
2.	Open a ticket with the Intervoice Network Operations Control Center (NOCC). To open a ticket with Intervoice, you must include: • **System number:** 50000072 • **System name:** RIC-TRM-1 You should also include the Sentinel ticket number on the Intervoice ticket.
3.	If Intervoice does *not* provide their severity classification, ask the agent to provide the information and question the agent if the severity rating does *not* seem appropriate.
4.	Update the Sentinel ticket with the Intervoice ticket number and severity rating. *Notes:* • TSS/Sentinel may defer the Sentinel ticket to reflect the Intervoice escalation timeframes described in Section 2.4, The DBS-IVR Escalation Process on page 11. • The severity may be updated at any time during Intervoice's triage and investigation.

Step	Action
5.	Use the Message Manager to add a message to the Network Status area of the ComSpan GUI. (See Section 4.13, Using Message Manager on page 66 for details.)
6.	If Intervoice does *not* seem to be responding or escalating an issue appropriately: • Review the Intervoice severity ratings and escalation process shown in Section 2.4, The DBS-IVR Escalation Process on page 11. • Contact the NOCC and confirm the severity rating assigned to the ticket. • If the severity rating seems inappropriate, initiate an escalation with NOCC to discuss the severity. • If the escalation does *not* resolve the issue, contact Jennifer Keating, Firefly Account Manager, who will escalate the issue within DBS. • Update the Sentinel ticket as needed.
7.	Once the problem is resolved: • Close the ticket with Sentinel. • Use the Message Manager to update the Network Status area of the ComSpan GUI. (See Section 4.13, Using Message Manager on page 66 for details.)

4.4.2   Handling Tickets for the Message "No Phone Numbers Are Available"

If the ticket indicates the customer received a message that "No phone numbers are available," use this procedure.

Step	Action
1.	Log on to FF-CSMS and select Report > Phone Number Manager > Show Available Phone Numbers. *The system displays a search form.*
2.	Enter the customer's preferred area code and click "Next."
3.	If the message is correct and there are *no* phone numbers available, send an email to FireflyAlerts@dbsnow.com. *Tip:* R&D is continuing to refine the process that replenishes the "phone bank" of available MDNs. If the message is *not* correct, update the Sentinel ticket and ask ComSpan to re-try the activation.

For step 2:

Input Parameters for Query Phone Bank

Enter NPA: 847

⬇ Next

The system will display a table showing all the available numbers.

Phone Bank

RATECENTER	AREACODE	NUMNUMBERS	MARKETID	MARKETCODE
005958003492	847	8	910	ILL
006001003501	847	21	910	ILL
006023003461	847	24	910	ILL

4.4.3   Handling Tickets about Inappropriate Area Codes

If the ticket indicates the customer is not satisfied with the area code (usually because it does not match the locale or will produce long-distance charges for calls made to the Firefly phone), use this procedure to find an area code that is more appropriate to the customer's needs.

Step	Action
1.	Run the custom query "CkZIPCodes" to confirm that the ZIP Code the customer used is associated with an area code the customer does not want. (See Section 3.4.4.3, Run the ChkZipCodes Query on page 21 for details.)
2.	• If the ZIP Code is associated with an appropriate area code, update the Sentinel ticket with the information and close the ticket. • If the ZIP Code is *not* associated with an appropriate area code, use the custom query AvailZIPMPANXX to find a ZIP Code that corresponds to the customer's preferred area code, community, and prefix. (See Section 3.4.4.2, Run the AvailZIPMPANXX Query on page 20.) Go to the next step.
3.	• If the phone has already been activated, see Section 4.5, Handling Sentinel Tickets for MDN Changes on page 54. • If the phone has *not* been activated, update the Sentinel ticket with the appropriate Zip Code and ask that the ComSpan CSR complete the activation.

4.4.4   Handling Tickets for Error Messages from Firefly Phones

If the Firefly phone is displaying messages such as "Limited Service," "No Network," or "Not Available," this may indicate that the switch needs to be updated.

The *solution* to this problem is to try to update the switch. The *method* you use to perform the update depends on the market within which the Firefly phone was activated.

Step	Action
1.	• If you have access to Telegence, CARE, and the Ericsson Reseller Prepaid CARE system, go to the next step. • If you do *not* have access to Telegence, CARE, or Webcare, call Cingular Support and ask them to open a ticket for the problem.
2.	Review the Sentinel ticket to identify the customer's MDN.
3.	Log on to FF-CSMS and enter the MDN in the Find box. (See Section 3.4.2, Use the FIND Box to Search for Specific Records on page 17 for details.) *FF-CSMS will display a screen with tables showing the most recent contract and work orders for that MDN.*
4.	Review the most recent contract and note the Market. • If the Market ID falls between 900 and 999, the MDN is managed through Telegence. Go to Section 4.4.4.1, Using Telegence to Update the Switch by Sending an OTA to a Phone. • If the Market ID falls between 1000 and 1099, the MDN is managed through CARE. Go to Section 4.4.4.2, Using CARE to Update the Switch.

4.4.4.1   Using Telegence to Update the Switch by Sending an OTA to a Phone

Sending an OTA (over the air) signal to a cell phone will often update the switch.

Step	Action
1.	Login to the Remote Desktop and login to Telegence and then login to the appropriate market. (See Section 3.7, Log On to Telegence on page 28.)
2.	Click the CSM (Customer Service Management) icon in the toolbar. *The system displays the CSM main window.*
3.	Open the customer's BAN folder. • Click the Select icon in the toolbar. *The system displays the Select Ban dialog box.* • Be sure Subscriber is selected. • Enter the MDN without dashes and then click the "Retrieve" button. *The system displays a tabbed dialog box that represents the BAN folder.*
4.	If more than one contract is shown, select the most recent contract, as indicated by the active status.
5.	Send the OTA. • Press [Alt]-[A]-[S]. • Select the menu option Actions > Resend OTA.
6.	Confirm the OTA succeeded by clicking the Memos button on the left side and look for an acknowledgment from Telegence. Read the comments and be sure the message reads: "Status is: OK" • If the status is "OK," update the Sentinel and add a note that the CSR should ask the customer to power cycle the phone (turn it off and then on). • If the status is *not* "OK," open a ticket with Cingular Support and update the Sentinel ticket.
7.	If ComSpan later reports that the customer is still having problems, call Cingular Support and ask them to open a ticket.

4.4.4.2   Using CARE to Update the Switch

Step	Action
1.	If the MDN is managed by CARE, call Cingular Support, give them the MDN and ask them to use CARE to disconnect and reconnect the phone. *This will usually have the effect of synchronizing the switch database with the data in FF-CSMS.*
2.	Once Cingular notifies you that they have disconnected and then reconnected the phone, update the Sentinel ticket and add a note that the CSR should ask the customer to power cycle the phone (turn it on and off).
3.	If ComSpan later reports that the customer is still having problems, call Cingular Support and ask them to open a ticket.

4.4.5   Handling Sentinel Tickets for Customers Who Cannot Make or Receive Calls

When customers activate a Firefly phone, they will be given an estimate of how long they must wait before making or receiving calls. In some cases, the customer will activate the phone without problem, wait the recommended amount of time, and find that they cannot make or receive calls.

These problems typically occur when the activation is not propagated from the Cingular applications (Telegence or CARE) to the Ericsson Reseller Prepaid CARE system, which also needs to create an account for the new contract and MDN. If Ericsson doesn't have an account for the phone, it won't allow the phone to be used.

The ComSpan CSRs have the ability to search Ericsson for the MDN but they do not have the technical knowledge to help the Ericsson engineers investigate why the activation did not reach Ericsson.

The ComSpan CSR will usually open a ticket with Sentinel, who will direct the ticket to TSS. TSS will open a ticket with Ericsson and follow-up as needed.

4.5   Handling Sentinel Tickets for MDN Changes

Customers request MDN changes for a variety of reasons, such as:

- They activated the phone with the "wrong" area code.
- Their child is getting calls intended for the previous owner of the MDN and it is not practical to use call screening to solve the problem.

Once Comspan authorizes the MDN change, they will open a ticket with Sentinel and include:

- the old MDN
- the contract balance from the Ericsson Reseller Prepaid CARE system

    Note: TSS does not need this information to change the MDN, but the CSR will need it to adjust the Ericsson account balance following the MDN change.

- the area code, prefix and/or community the customer wants to use for the new MDN

4.5.1   Changing an MDN

Step	Action
1.	Review the ticket to be sure it shows the old MDN, contract balance, the area code, prefix and/or community the customer wants to use for the new MDN. If any of the details are missing, call ComSpan and ask them to correct the ticket.
2.	Log on to FF-CSMS, if needed, and use the Find Box to search for the old MDN. (For details, see Section 3.4.2, Use the FIND Box to Search for Specific Records.). *FF-CSMS displays the Most Recent Contract and Work Orders for the MDN.*
3.	Review the screen to be sure: • The contract's phone number and ZIP Code match the information on the ticket. If not, repeat the search. If you get the same "wrong" results again, contact ComSpan for clarification. • A colleague has *not* submitted a similar work order.
4.	Under "Most Recent Contract," click the magnifying glass ($\mathcal{Q}$) icon. *FF-CSMS displays the "Contract – General" screen.*

Step	Action
5.	Click "Create New Work Order." *FF-CSMS displays the "Contract – Add Work Order" screen.*
6.	Complete Step 1 of the work order form. • In "Requesting Dealer," the system will display the default Dealer ID for Firefly (2000). • In "Authorized By," the system will display your user name. • In "Attribute to Change," select "Change Phone Number." • In "Reason," enter the Sentinel ticket number and an explanation that includes the old and new area codes. ***Example:*** "Sentinel ticket # xxxxxxx Customer wants to change area code from [xxx] to [yyy]."
7.	Click "Next." *FF-CSMS displays Step 2 and a current estimate of the time required to process work orders.*
8.	In Step 2, complete the "New MDN" field. • Enter the customer's desired area code. • Select a specific community from the drop-down list. ***Notes:*** • If the ticket specifies a community that is not in the list, use a Google search to identify the community ZIP Code and then use the custom query AvailZIPMPANXX to find an appropriate area code for that community. (See Section 3.4.4.2, Run the AvailZIPMPANXX Query on page 20 for details.) • If the ticket doesn't specify a community, use the custom query ChkZipCode to look up the customer's original ZIP Code and community. (See Section 3.4.4.3, Run the ChkZipCodes Query on page 21 for details.)
9.	• Click "Finished." • *If the old MDN and new MDN are in the same market, FF-CSMS displays the green "Contract – Add Work Order" screen. Go to the next step.* • *If the old MDN and new MDN are in different markets, FF-CSMS displays an error message. Go to Section 4.5.2, Handling a Cross-Market MDN Change on page 56.*
10.	Verify the work order information. • If the information is correct, click "Finished." *FF-CSMS will display the black "Contract – Add Work Order" screen. The MDN field will contain the new MDN.* • If the information is *not* correct, click the browser's "Back" button and make corrections as needed.

Step	Action
11.	Use the Find box to search for the new MDN and check the status of the work order. • If the Status field contains the word "Complete" in blue, the work order was processed successfully. Go to the next step. • If the Status field contains the word "Processing" in orange, the work order is still processing. Keep checking to be sure the work order does not time out. If the work order generates an error, see Section 4.2, Check the Pending Work Orders Report on page 43. • If the Status field contains the word "Error in red, the work order generated an error. See Section 4.2, Check the Pending Work Orders Report on page 43.
12.	Update the Sentinel ticket with the new MDN and work order number and ask them to close the ticket. *Following the MDN change, the ComSpan CSR will use the Ericsson Reseller Prepaid CARE system to:* • *search for the new MDN, to be sure that an account was created for the new MDN.* • *search for the old MDN, to determine whether the customer made or received additional calls or purchased additional airtime while the MDN change was pending. Ericsson does not automatically transfer the balance from the old MDN to the MDN, so the CSR will need to use the balance shown on the Sentinel ticket to manually adjust the contract balance for the new MDN.*

4.5.2 Handling a Cross-Market MDN Change

Neither Telegence nor CARE can perform a cross-market MDN change, so the phone will need to be re-activated with a new SIM.

Step	Action
1.	Identify a ZIP Code that corresponds to the new market and the customer's preferred area code. (See 4.4.3, Handling Tickets about Inappropriate Area Codes on page 52 for details.)
2.	Update the Sentinel ticket to indicate the new area code is in a different market. Ask to have the original ticket closed and new ticked opened for the cross-market MDN change. Indicate the ZIP Code the CSR will need to use to obtain an MDN with the customer's preferred area code. *ComSpan will mail a new SIM card to the customer and open a new ticket that shows the number of the new SIM card and the ZIP Code that needs to be used for the activation. The new ticket should have a check in the field "Manager Approval."*
3.	If you have not been trained to use the Brightstar application to create a PIN, ask a colleague or send an email to R&D at FireflyAlert@dbsnow.com. *Your colleague or R&D will give you a new PIN (activation code).*

Step	Action
4.	Update the Sentinel ticket with the new PIN.
	ComSpan will:
	• *help the customer install the new SIM card in the Firefly phone, if necessary.*
	• *use the new PIN to activate the phone in the appropriate market.*
	• *use Ericsson Reseller Prepaid CARE system to search for the new MDN, to confirm an account was created for the new MND.*
	• *use Ericsson Reseller Prepaid CARE system to search for the old MDN, to determine whether the customer made or received additional calls or purchased additional airtime while the MDN change was pending. Ericsson does not automatically transfer the balance from the old MDN to the MDN, so the CSR will need to use the balance shown on the Sentinel ticket to manually adjust the contract balance for the new MDN.*

4.6   Handling Sentinel Tickets to Suspend a Contract

If a phone is lost or stolen, ComSpan can open a Sentinel ticket to have TSS create a work order to suspend the phone service, meaning the phone cannot be used to make or receive calls. The ticket should include:

• at minimum, the MDN and ideally the ZIP Code, SIM, and IMEI, which can be used to confirm you are suspending the correct contract

• a check in the field "Manager Approval."

• the account balance, in case the customer finds the phone and then asks to have the account restored. (See Section 4.7, Handling Sentinel Tickets for Restoring a Contract on page 59 for details.)

These work orders should be issued through FF-CSMS, to maintain a record of the account balance, the date the work order was submitted and the name of the person who submitted the work order.

Note: The Ericsson Reseller Prepaid CARE system will also suspend a contract when the contract balance reaches $0 and/or the customer runs out of airtime. Ericsson will "restore" the phone service when the customer purchases more airtime. This suspension of service is separate and distinct from a suspend work order that TSS creates with FF-CSMS.

Step	Action
1.	Log on to FF-CSMS, if needed, and use the Find Box to search for the MDN. (For details, see Section 3.4.2, Use the FIND Box to Search for Specific Records on page 17 for details.)
	FF-CSMS displays the Most Recent Contract and Work Orders.
2.	Review the screen to be sure:
	• The contract's phone number, ZIP Code, SIM, and IMEI match the information on the ticket. If not, repeat the search. If you get the same "wrong" results, contact ComSpan for clarification.
	• A colleague has *not* submitted a similar work order. If so, contact ComSpan for clarification.
3.	Under "Most Recent Contract," click the magnifying glass (🔍) icon.
	FF-CSMS displays the Contract – General screen.

Step	Action
4.	Click "Create New Work Order." *FF-CSMS displays the "Contract – Add Work Order" screen.*
5.	Complete Step 1 of the work order form. • In "Requesting Dealer," the system will display the default Dealer ID for Firefly (2000). • In "Authorized By," the system will display your user name. • In "Attribute to Change," select "Suspend contract." • In "Reason," enter the Sentinel ticket number and an explanation. *Example:* Sentinel ticket # xxxxxxx Customer requested suspend.
6.	Click Next. *FF-CSMS displays Step 2 and an instruction to click "Finished."*
7.	Click "Finished." *FF-CSMS will display a green confirmation screen.*
8.	Verify the work order information. • If the information is correct, click "Finished." *FF-CSMS will display the black "Contract – Add Work Order" screen.* • If the information is *not* correct, click the browser's "Back" button and make corrections as needed.
9.	Use the Find box to search for the new MDN and check the status of the work order. • If the Status field contains the word "Complete" in blue, the work order was processed successfully. Go to the next step. • If the Status field contains the word "Processing" in orange, the work order is still processing. Keep checking to be sure the work order does not time out. If the work order generates an error, see Section 4.2, Check the Pending Work Orders Report on page 43. • If the Status field contains the word "Error in red, the work order generated an error. See Section 4.2, Check the Pending Work Orders Report on page 43.
10.	Once the work order has completed, update the ticket.

4.7 Handling Sentinel Tickets for Restoring a Contract

A Firefly contract that has been suspended (meaning it cannot be used to make or receive calls) can be "restored" (meaning the phone can again be used to make and receive calls) in two ways:

- If the account was suspended because the customer ran out of airtime, the customer can purchase additional airtime. In these situations, the Ericsson Reseller Prepaid CARE system will create the work order to restore the account.

- If the account was suspended because the customer thought the phone was lost or stolen and asked to have the service suspended, the customer can contact ComSpan, who will open a Sentinel ticket, which will be forwarded to TSS. TSS will respond by using FF-CSMS to create a work order to restore the contract.

If you get a Sentinel ticket to restore a suspended account, use this procedure.

Step	Action
1.	Log on to FF-CSMS, if needed, and use the Find Box to search for the MDN. (See Section 3.4.2, Use the FIND Box to Search for Specific Records on page 17 for details.) *FF-CSMS displays the Most Recent Contract and Work Orders.*
2.	Review the screen to be sure: • The contract's phone number, ZIP Code, SIM, and IMEI match the information on the ticket. If not, repeat the search. If you get the same "wrong" results, contact ComSpan for clarification. • A colleague has *not* submitted a similar work order. If so, contact ComSpan for clarification.
3.	Under "Most Recent Contract," click the magnifying glass (🔍) icon. *FF-CSMS displays the Contract – General screen.*
4.	Click "Create New Work Order." *FF-CSMS displays the "Contract – Add Work Order" screen.*
5.	Complete Step 1 of the work order form. • In "Requesting Dealer," the system will display the default Dealer ID for Firefly (2000). • In "Authorized By," the system will display your user name. • In "Attribute to Change," select "Restore contract." • In "Reason," enter the Sentinel ticket number and an explanation. *Example: Sentinel ticket # xxxxxxx Customer requested restore.*
6.	Click Next. *FF-CSMS displays Step 2 and an instruction to click "Finished."*
7.	Click "Finished." *FF-CSMS will display a green confirmation screen.*
8.	Verify the work order information. • If the information is correct, click "Finished." *FF-CSMS will display the black "Contract – Add Work Order" screen.* • If the information is *not* correct, click the browser's Back button and make corrections as needed.

Step	Action
9.	Use the Find box to search for the new MDN and check the status of the work order. • If the Status field contains the word "Complete" in blue, the work order was processed successfully. Go to the next step. • If the Status field contains the word "Processing" in orange, the work order is still processing. Keep checking to be sure the work order does not time out. If the work order generates an error, see Section 4.2, Check the Pending Work Orders Report on page 43. • If the Status field contains the word "Error in red, the work order generated an error," See Section 4.2, Check the Pending Work Orders Report on page 43.
10.	Once the work order has completed, update the ticket.

4.8   Handling Sentinel Tickets to Disconnect a Contract

The ComSpan CSRs have been trained that the Ericsson Reseller Prepaid CARE system will automatically create a disconnect work order when a customer's phone lapses beyond the expiration of their balance and then beyond the grace period (generally 120 days total).

Firefly customers can also ask to have the Firefly service disconnected. In these situations, ComSpan will open a Sentinel ticket with TSS. TSS will respond by using FF-CSMS to create and submit a disconnect work order to Cingular.

To create a work order to disconnect a Firefly phone, use this procedure.

Step	Action
1.	Log on to FF-CSMS and use the Find Box to search for the MDN. (See Section 3.4.2, Use the FIND Box to Search for Specific Records on page 17 for details.) *FF-CSMS displays the Most Recent Contract and Work Orders.*
2.	Review the screen to be sure: • The contract's phone number, ZIP Code, SIM, and IMEI match the information on the ticket. If not, repeat the search. If you get the same "wrong" results, contact ComSpan for clarification. • Another CSR has *not* submitted a similar work order. If so, contact ComSpan for clarification.
3.	Under "Most Recent Contract," click the magnifying glass (Q) icon. *FF-CSMS displays the Contract – General screen.*
4.	Click "Create New Work Order." *FF-CSMS displays the "Contract – Add Work Order" screen.*
5.	Complete Step 1 of the work order form. • In "Requesting Dealer," the system will display the default Dealer ID for Firefly (2000). • In "Authorized By," the system will display your user name. • In "Attribute to Change," select "Disconnect." • In "Reason," enter the Sentinel ticket number and a brief explanation. *Example:* Sentinel ticket # xxxxxxx ComSpan requested disconnect.

Step	Action
6.	Click Next. *FF-CSMS displays Step 2 and an instruction to click "Finished."*
7.	Click "Finished." *FF-CSMS will display a green confirmation screen.*
8.	Verify the work order information. • If the information is correct, click "Finished." *FF-CSMS will display the black "Contract – Add Work Order" screen.* • If the information is *not* correct, click the browser's "Back" button and make corrections as needed.
9.	Use the Find box to search for the new MDN and check the status of the work order. • If the Status field contains the word "Complete" in blue, the work order was processed successfully. Go to the next step. • If the Status field contains the word "Processing" in orange, the work order is still processing. Keep checking to be sure the work order does not time out. If the work order generates an error, see Section 4.2, Check the Pending Work Orders Report on page 43. • If the Status field contains the word "Error in red, the work order generated an error. See Section 4.2, Check the Pending Work Orders Report on page 43.
10.	Once the work order has completed, update the ticket.

4.9   Handling Sentinel Tickets to Resurrect a Contract

The ComSpan CSRs have been trained that a "disconnect" means that a Firefly phone number has been completely disconnected and returned to a pool of numbers that are available for reassignment to other cell phones.

For DBS customers, an account that has been disconnected can sometimes be "resurrected," meaning that the customer can keep the same number and re-activate the account.

Resurrects are not currently supported for Firefly customers. If you get a Sentinel ticket requesting a resurrect for a Firefly phone, use this procedure:

Step	Action
1.	Update the ticket to indicate resurrects are not currently supported.
2.	Follow-up by sending an email to Jennifer Keating, Firefly Account Manager, and to FireflyAlert@dbsnow.com, so that the appropriate personnel can work with Firefly to determine whether they want to change the Firefly policy on disconnects.

4.10 Handling Sentinel Tickets for Ericsson Maintenance Outages

The Ericsson system goes down periodically for maintenance. Whenever the Ericsson system is down, the FF-CSMS line provisioners for Cingular (both Telegence and CARE) must also be brought down. This prevents data from getting out of synch between the Cingular systems and the Ericsson system.

If you get a Sentinel ticket regarding a planned Ericsson maintenance outage, use this procedure:

Step	Action
1.	Contact Ericsson and find out whether the maintenance will impact Firefly functionality.
2.	Do one of the following: • If the maintenance impacts Firefly, then schedule provisioner down time for the period Ericsson will be down for maintenance. See Section 4.15, Scheduling Provisioner Down Time on page 69. • If the maintenance does not impact Firefly, then do nothing.

4.11 Handling Telegence PNI Reservation Failures

Reserving numbers in Telegence is an automated process. FF-CSMS automatically generates a work two hours before the current reservation expires, or whenever a new phone number is requested but all reserved numbers for the requested rate center and area code have been used. Twenty-five numbers per rate center and area code are reserved at one time and the reservation lasts for ten days.

If the phone number reservation is not successful, an email is sent to the TSS inbox. To handle the reservation failure, use this procedure:

Step	Action
1.	When you first receive an email regarding Telegence PNI Reservation Failure, do nothing for five days. Telegence is automatically notified of the problem and they need five days to handle the error.
2.	If after five days the problem persists, contact Dave Campbell. Dave will contact Cingular to find resolution to the problem.
3.	Follow up with Dave regarding the resolution.
4.	Forward the information regarding the resolution to FireflyAlert@dbsnow.com, so that R&D can update the database as needed.

4.12 Handling CARE PNI Reservations

Reserving numbers in CARE is a manual process. In CARE, you can specify how many numbers you want to reserve and for how long.
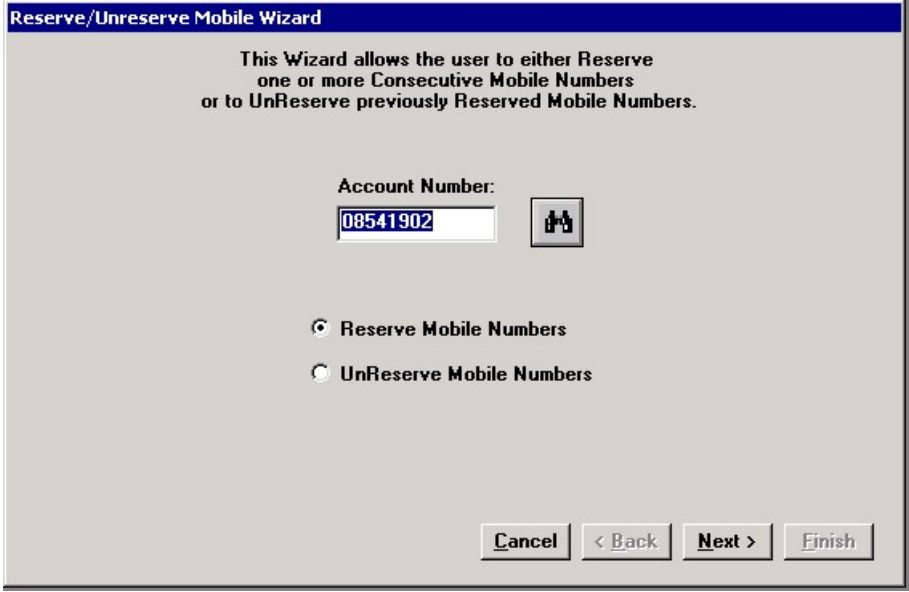
Each day an email regarding the CARE PNI Reservations Needed is sent to the TSS inbox. The email contains a table that shows how many numbers are currently reserved for each rate center and area code. Figure 5 shows an example of the email.
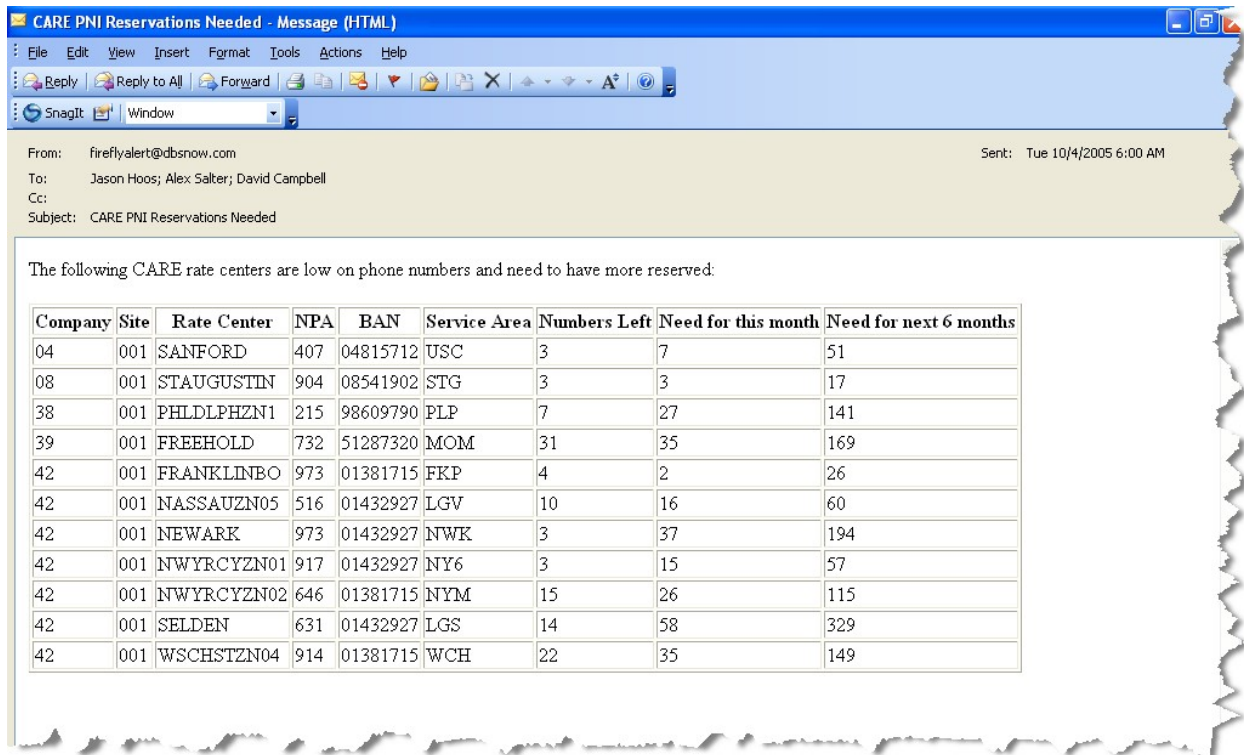
Figure 5 Email Showing CARE PNI Reservation Needs

To reserve more phone numbers in CARE, use this procedure:

Step	Action
1.	Log on to CARE for the market where you want to reserve numbers. See Section 3.8, Log On to CARE on page 30. *Note:* The Market field on the CARE log in screen is the same as the Company code displayed in the email. *The CARE screen appears.*

2.	Click on the ⓡ button on the tool bar.
	The Reserve/Unreserve Mobile Wizard window appears.
	Reserve/Unreserve Mobile Wizard
	This Wizard allows the user to either Reserve one or more Consecutive Mobile Numbers or to UnReserve previously Reserved Mobile Numbers.
	Account Number:
	08541902 〽
	⦿ Reserve Mobile Numbers
	○ UnReserve Mobile Numbers
	Cancel ‹ Back Next › Finish
3.	• Enter the Account Number. This number comes from the BAN field on the email.
	• Select the Reserve Mobile Numbers button.
	• Click Next.
4.	• Set the Retrieve Consecutive Numbers field to "Yes."
	• Set the Quantity of Mobiles to Retrieve field to the number you need.
	Tip: Include a little buffer. For example, if the email says that 17 numbers are needed in the next 6 months, then consider setting the quantity to 20.
	• Set the Expiration Date field to a date far in the future. For example 01/01/2020.
	• Set the Service Area field to the service area indicated in the email.
	• Set the NPA field to the NPA indicated in the email.
	The system attempts to retrieve the numbers. If the requested number of phone numbers cannot be retrieved, then an error message displays. Click OK to clear the message. The numbers that were successfully retrieved appear on the screen.
5.	Write down the first and last number in the list and the expiration date. You will need to send this information to R&D for an FF-CSMS database update.
6.	Click the Finish button to reserve the numbers.
7.	If you were not able to reserve as many numbers as are needed, then repeat Steps 2 through 6 until you have reserved enough numbers.

| 8. | Send an email to FireflyAlert@dbsnow.com so that R&D can update the FF-CSMS database with the reserved numbers. Include the following information in the email:
• The first and last number of each reserved range of numbers.
• The expiration date for the reserved numbers.
• A copy of the info in the email for which you reserved numbers. For example: |
|---|---|

The following numbers have been reserved in CARE and need to be added to the database:

904-315-4978 through 4987
904-315-5005 through 5015

Expiration Date 01/01/2020

| 08 | 001 | STAUGUSTIN | 904 | 08541902 | STG | 3 | 3 | 17 |

From: fireflyalert@dbsnow.com [mailto:fireflyalert@dbsnow.com]
Sent: Tuesday, October 04, 2005 6:00 AM
To: Jason Hoos; Alex Salter; David Campbell
Subject: CARE PNI Reservations Needed

The following CARE rate centers are low on phone numbers and need to have more reserved:

Company	Site	Rate Center	NPA	BAN	Service Area	Numbers Left	Need for this month	Need for next 6 months
04	001	SANFORD	407	04815712	USC	3	7	51
08	001	STAUGUSTIN	904	08541902	STG	3	3	17
38	001	PHLDLPHZN1	215	98609790	PLP	7	27	141
39	001	FREEHOLD	732	51287320	MOM	31	35	169
42	001	NKLINBO	97	01381715	FKD	4	2	26

4.13 Using Message Manager
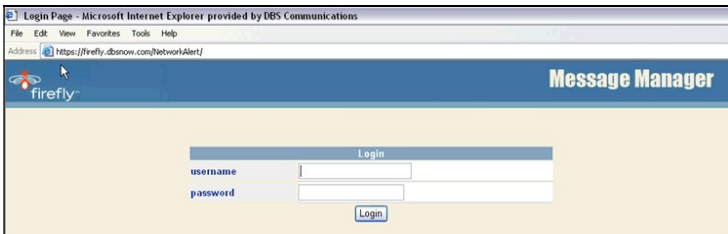
The Message Manger allows you to create messages about global and local network issues, which will be displayed in the Network Status area of the ComSpan GUI. (See Figure 6.)
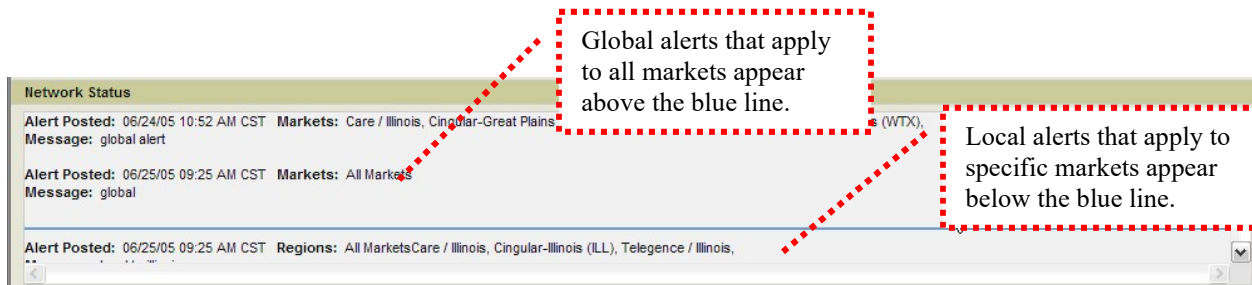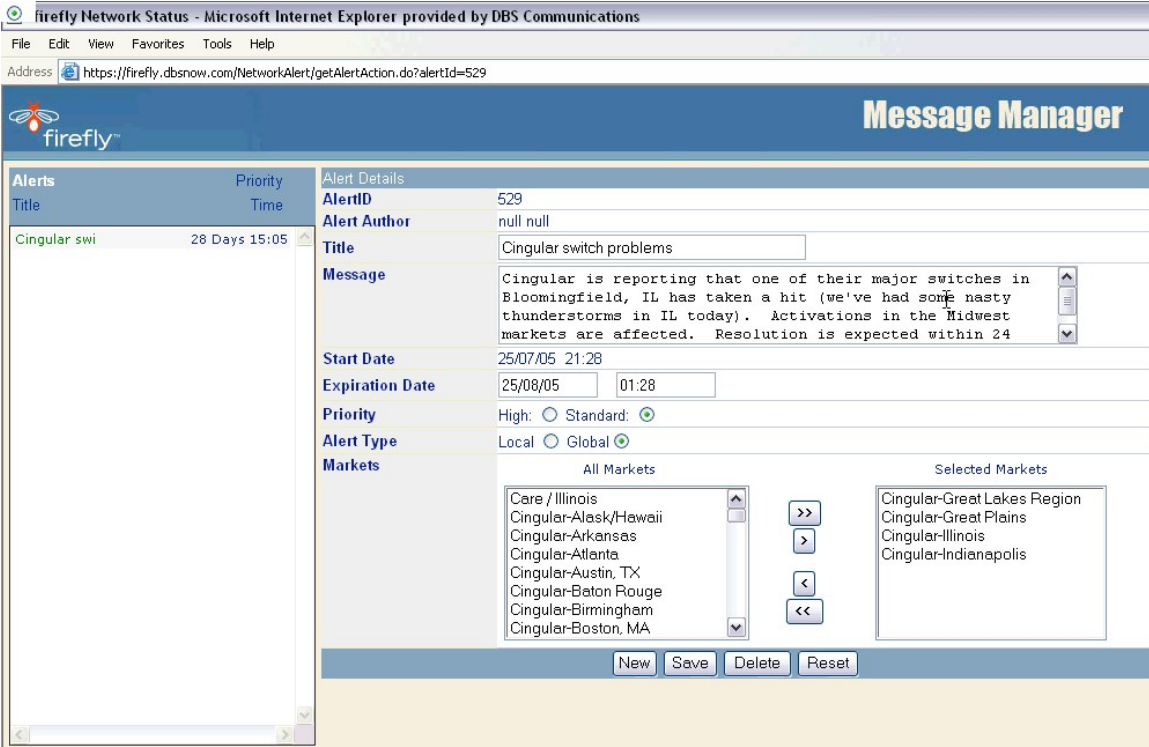
Figure 6 Network Status Area in the ComSpan GUI

The goal of the Network Status message is to alert the ComSpan CSRs to system or carrier issues that may be affecting their work or the customers' ability to activate phones.

TSS is responsible for using the Message Manager to update, create, and delete both global and local alerts.

Step	Action
1.	Log on to Message Manager by pointing your browser at the URL: https://firefly.dbsnow.com/NetworkAlert/ *The Message Manager will display a log on screen.*
2.	Log on with your user name and password. *Tip:* Your user name and password for the Message Manager will be the same as your user name and password for FF-CSMS. *The Message Manager will display its main page.*

Step	Action
3.	Review the Alerts Panel at the left of the screen to be sure your update is not a duplicate of another message. Note too the color of the title, which indicates the message's status: • Green alerts are currently active. • Yellow alerts will be expiring shortly. • Red alerts have expired.
4.	If you need more information to determine whether your update is a duplicate, click the alert title. *The Alerts Details will display the message details.*

Step	Action
5.	• If you decide your alert is a duplicate, close the Message Manager. • If you realize an alert is incorrect or no longer effective, select the alert from Alerts Panel at the left and then click "Delete." • If you decide your alert provides additional information or extends the Expiration Date, update the fields as needed and then click "Save." • If you decide your alert is *not* a duplicate or an update, go to the next step.
6.	To create a new network message, click the New button. *The Message Manager will display a blank Alert Details form.*
7.	The Message Manger will fill in the "AlertID," "Alert Author," and "Start Date" fields. You will complete the remaining fields: • **Title:** Create a short but descriptive title. • **Message:** Enter a message of no more than 255 characters. This message will appear in the Network Status area. *Tip:* Be sure to explain what this alert means for the CSRs and the Firefly customers in terms of the ability to complete activation or make or receive calls. • **Expiration Date:** Enter the date and time the message should be removed from the Network Status area. • **Priority.** Select High or Standard, depending on the nature of the problem. • **Alert Type:** Select "Local" if the issue affects only selected markets or "Global" if the issue affects all markets. • **Markets:** Under "All Markets" select an affected market and click the ▸ control to move it to the Selected Markets window. Continue until you have selected all the affected markets. Or, if all markets are affected, click the ›› control. When you are through, click "Save." *The Message Manager will display the Alert title in the Alerts panel.*
8.	Log on to ComSpan GUI to be sure the network message is displayed correctly. (For details, see Section 3.5.1, Log on to the ComSpan GUI on page 23.) If the message is *not* displayed correctly, return to the Message Manager, make the necessary corrections, and save the corrections.
9.	Send email alerts to: • Cindie.Smith@fireflymobile.com • firefly_leads@comspanusa.net

4.14 Supporting User Accounts for ComSpan CSRs

If you receive a ticket that about the need to create or change user accounts for the ComSpan CSRs, send an email to FireflyAlert@dbsnow.com, so that R&D can handle the ticket.

4.15 Scheduling Provisioner Down Time

Bringing the line provisioners down for Cingular Telegence and Cingular CARE causes the work orders from FF-CSMS from being sent to those systems.

> *Note:* The line provisioners reside on CHIASP09 and CHIASP10. You must schedule provisioner down time on both hosts.

To schedule provisioner down time, use this procedure:

Step	Action
1.	Open a SSH Secure Shell Client by double-clicking its icon located on the desktop. The icon looks like:
2.	Press Enter to connect to a host. *The Connect to Remote Host window appears.*
3.	Connect to CHIASP09. • Enter CHIASP09 in the Host Name field. • Enter your ID in the User Name field. • Click Connect. • Enter your password in the Password field. • Click OK. *A connection to CHIASP09 is established.*
4.	At the command line prompt, type the following command and then press Enter: `cd /u01/app/systems/firefly/bin` *The current directory is changed to the* `firefly/bin` *directory.*

Step	Action
5.	Run the script to schedule down time by typing the following command: `schedule-provisioner-downtime.pl` *You are prompted for a start date.*
6.	When prompted, enter the start date, start time, end date, and end time of the scheduled down time. Note: Times should be entered in military time format.
7.	When prompted, enter a comment explaining the down time. *Information about the requested down time appears along with the prompt:* `Are you sure? (y/n)`
8.	Type `y` to continue.

9.	When prompted, enter your Nagios login and password.
	
	The following prompts appear:
	
	`Scheduling downtime in Nagios…`
	
	`Submitting jobs to the system scheduler…`
	
	`Done!`
	
	The down time is scheduled on CHIASP09 and Nagios notifications are suppressed for the duration of the down time.

10.	Click File > Disconnect to disconnect from the host.
11.	Repeat steps 2 through 10 for CHIASP10. *The down time is scheduled on CHIASP10 and Nagios notifications are suppressed for the duration of the down time.*

4.16 Canceling Provisioner Down Time

To cancel provisioner down time, use this procedure:

Note: You must cancel provisioner down time on both CHIASP09 and CHIASP10.

Step	Action
1.	Open a SSH Secure Shell Client by double-clicking its icon located on the desktop. The icon looks like:
2.	Press Enter to connect to a host. *The Connect to Remote Host window appears.*
3.	Connect to CHIASP09. • Enter CHIASP09 in the Host Name field. • Enter your ID in the User Name field. • Click Connect. • Enter your password in the Password field. • Click OK. *A connection to CHIASP09 is established.*

4.	At the command line prompt, type the following command and then press Enter:
	
	`sudo -u firefly at -l`
	
	The down time that is currently scheduled appears in a list. On each line the job ID is listed first, followed by the time it is scheduled to run. There will be two jobs for each scheduled down time--one to stop the application services and another to re-start them. For example:
	
	`1128402000.a   Tue Oct 4  00:00:00 2005`
	
	`1128405600.a   Tue Oct 4  01:00:00 2005`

5.	To cancel a job, type the following command and then press Enter: `sudo –u firefly atrm <id>` where `<id>` is the job ID you want to cancel (e.g., 1128402000.a). *Note:* Be sure to cancel both jobs—the one that stops the application services and the one that re-starts them. *The down time is cancelled on CHIASP09.*
6.	Click File > Disconnect to disconnect from the host.
7.	Repeat steps 2 through 6 for CHIASP10. *The down time is cancelled on CHIASP10.*
8.	Cancel the corresponding down time for both CHIASP09 and CHIASP10 in Nagios. See Section 3.10.5, Canceling Scheduled Down Time in Nagios on page 38 for more information.

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5 REFERENCE

5.1 Primary URLs for DBS Firefly Applications

Note: The network architecture for the DBS Firefly applications uses load balancers to direct transactions to two secondary servers.

Whenever possible, you should log on to the URL for the server with the load balancer.

Application	URL
FF-CSMS	http://172.18.130.51:8898/dbsWorkplace/dbsApp
Message Manager	https://firefly.dbsnow.com/NetworkAlert/
ComSpan GUI	https://firefly.dbsnow.com/ComspanCS/
Brightstar Application	https://firefly-brightstar.dbsnow.com/

Note: The ComSpan GUI and Message Manager have been designed to use Microsoft Internet Explorer.

5.2 Secondary URLS for DBS Firefly Applications

Note: The network architecture for the DBS Firefly applications uses load balancers to direct transactions to two secondary servers.

Whenever possible, you should log on to the URL for the server with the load balancer. Only use the secondary URLs if the load balanced server is not available.

Application	Server	URL
FF-CSMS	CHIASP09	http://172.18.130.70:8898/dbsWorkplace/dbsApp
FF-CSMS	CHIASP10	http://172.18.130.71:8898/dbsWorkplace/dbsApp
Message Manager	CHIASP03	http://172.18.135.100:8080/NetworkAlert/
Message Manager	CHIASP04	http://172.18.135.101:8080/NetworkAlert/
ComSpan GUI	CHIASP03	http://172.18.135.100:8080/ComspanCS/
ComSpan GUI	CHIASP04	http://172.18.135.101:8080/ComspanCS/
Brightstar Application	CHIASP03	http://172.18.135.100:8080/brightstar
Brightstar Application	CHIASP04	http://172.18.135.101:8080/brightstar/

5.3   URLs for Cingular Applications

You will access Cingular applications by using the Remote Desktop Connection to log on to CHIWIN02, which provides access to the Cingular applications and the Ericsson Reseller Prepaid CARE system.

Application	URL
Care Retailer GUI –or– Telegence Retailer GUI	https://telegence
Ericsson Reseller Prepaid CARE system	https://199.59.12.194/webrc/

Note: See Section 3.6, Configure the Remote Desktop on page 25 for instructions on using the Remote Desktop Connection.

5.4   Access to the Telegence and CARE APIs

On occasion, the Telegence and CARE APIs can provide another set of troubleshooting tools.

You access the APIs through the Remote Desktop Connection and then use the Start > Run menu to enter a path to the bat file that will start the API.

API	Path to bat file
CARE API	D:\firefly\CARE\run-client-app.bat
Telegence API	D:\firefly\telegence\run-client-app.bat

5.5   TSS Service Hours

TSS service hours are 7 a.m. to 12 a.m. (midnight) CST (5 a.m. to 10 p.m. PST), seven days a week.

Note: Firefly requested these service hours to correspond to the ComSpan Customer Service hours. (ComSpan is located in Roseburg, Oregon.)

As a coincidence, Cingular, which is located in Atlanta, starts its nightly maintenance window at 12 a.m. EST (11 p.m. CST).

5.6   Telephone Numbers

Name	Number
ComSpan Customer Support	1-800-558-2252
Sentinel Customer Service	1-800-259-5819
Cingular Support	1-877-252-7716
Webcare (Ericsson) Support	1-800-925-3742
Intervoice Network Operations Control Center (NOCC)	1-800-725-5063
Cingular Wireless National Compliance Center (for triangulating location of Firefly phone)	1-800-635-6840
TSS Subpoena Line	1-847-879-8834
TSS Subpoena Fax Line	1-888-749-3530

5.7   Intervoice Contacts for IVR Escalation Process

Contact	Business Phone	Cell Phone
Ken Prichard, NOCC Manager	407-537-1503	321-663-4154
Steve Jennings, RealCare Mgr	407-357-1675	407-416-1621
Mac Hammond, VP Operations	407-357-1661	407-416-1623

5.8   E-Mail Addresses

E-Mail Address	Purpose
firefly-issues@dbsnow.com	ComSpan uses to email tickets to Sentinel.
fireflySTI@dbsnow (alias "Firefly TSS")	Sentinel uses to email Sentinel tickets to TSS.
firefly@sentinel.com	TSS uses to forward questions to Sentinel, who forwards the email to ComSpan.
fireflyalert@dbsnow.com	TSS uses to forward questions to R&D.
firefly@comspanusa.net	Sentinel uses this address to contact ComSpan.

6   GLOSSARY

Term or Abbreviation	Definition
API	*Application Program Interface.* Provides an interface between FF-CSMS and the Cingular Billing System. The Firefly project uses two Cingular APIs: Telegence and CARE, each of which serves different markets.
Activation Code or PIN	A seven-digit number that encodes the SIM and IMEI for a Firefly phone. Assigned to phone by BrightStar to simplify consumer's activation of Firefly phone over the IVR. Also known as phone PIN.
BAN	*Business Account Number.* Represents the DBS account number in Telegence and CARE GUIs.
CDR	*Call Detail Record.* The carrier's record of call details. Used by CSMS to debit a contract's account balances for calls.
CRM	*Client Relations Manager.*
CS	*Customer Service.* Usually refers to ComSpan in this document.
CSR	Customer Service Representative
Contract	In the pre-paid cell phone industry, the terms *contract* and *contract ID* are used to refer to a customer, who is not required to sign a contract or provide a name.
ESN	*Electronic Serial Number.* A 32-bit control number used for cell phone activation.
FF-CSMS	DBS-provided system that provides line management and activation services for Firefly. Its design is based on CSMS 3.0, but FF-CSMS is housed on different servers and uses a separate database that contains only Firefly data.
IMEI	*International Mobile Equipment Identity.* A unique number given to every single mobile phone, typically found behind the battery. IMEI numbers of cellular phones connected to a GSM network are stored in a database (EIR - Equipment Identity Register) containing all valid mobile phone equipment. When a phone is reported stolen or is not type approved, the number is marked invalid. The number consists of four groups like this: nnnnnn--nn-nnnnnn-n The first set of numbers is the type approval code (TAC). The first two digits represent the country code. The rest make up the final assembly code. The second group of numbers identifies the manufacturer: 01 and 02 = AEG ; 07 and 40 = Motorola; ;0 and 20 = Nokia; 41and 44 = Siemens; 51= Sony, Siemens, Ericsson The third set is the serial number and the last single digit is an additional number (usually 0). (from www.webopedia.com)
Firmware	Software that is embedded in a hardware device, such as the SIM card used in cell phones.

Term or Abbreviation	Definition
IVR	*interactive voice response.* A voice mail system that allows a customer to interact with a computer system.
LB	*Load Balancing.* Hardware device used to spread the work load among several servers and prevent any one server from becoming overloaded.
Maintenance Window	A period of time scheduled for routine system maintenance, usually during the early morning or off-hours, so as to minimize disruption to users.
MDN	*Mobile Directory Number.* The telephone number for a cell phone.
MVNE	*Mobile Virtual Network Enabler.* The role DBS can play in facilitating business for other wireless-service providers, such as Firefly. For more information, see: http://www.dbsnow.com/mvne.asp
OTA	*Over the Air.* A cell phone capability that allows a carrier to deliver new firmware and software to a phone "over the air" (by sending a signal from the tower) or by having the phone's owner call a special phone number. The new programming takes affect after the user "power cycles" the phone by turning it off and then back on.
Power Cycle	Refers to turning the cell phone off, waiting 15 seconds, and then turning the phone on again. Can be used by TSS as a first attempt to fix a phone that is not working. Must be used after an OTA. Equivalent to rebooting a computer.
Reseller	Company that purchases goods from another company and sells them at a higher price to another company or to consumers. DBS, for examples, purchases cellular services and repackages them as prepaid cell phone products.
Restore	Refers to a work order that is created to "restore" service to a phone contract that has been suspended.
Resurrect	Refers to a work order that is created to "resurrect" a phone contract that has been disconnected.
SIM	Subscriber Identity Module. A printed circuit board that must be inserted in any GSM-based mobile phone to allow signing on to the network as a subscriber. It contains subscriber details, security information and memory for a personal directory of numbers. It also stores data that identifies the caller to the network service provider. (www.mobiledia.com)
Subpoena	A written court order requiring the person named in the subpoena to testify in court and/or produce a paper, document, or other object relevant
Suspend	A prepaid cell phone status that occurs when the contract's balance or airtime falls below predetermined minimums.
Switch	A node on the high-speed computer network that the carrier uses to relay message packets across the network. Contains a database with line information for MDNs served by that switch. During activation, data about the new line is propagated to a carrier switch and to the Ericsson Reseller Prepaid CARE system. If the switch's database was not updated with data about the new line, it cannot recognize the new MDN or transmit the message packets to or from the line. The switch will respond by displaying an error message, such as "Limited Service," "No Network," and so on.
Triangulation	The process of using signals between a cell phone and nearby towers to determine the phone's location. Accurate to approximately forty feet.

Term or Abbreviation	Definition
TSS	*Technical Support Services*. The internal DBS help desk that provides Tier 2 support for the Firefly customer service vendor, ComSpan.
Work Order	Official request to a carrier to activate/deactivate a phone or change the MDN, SIM, or features associated with a contract.