

User guide

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DASH CONNECTIVITY INSIGHTS OVERVIEW

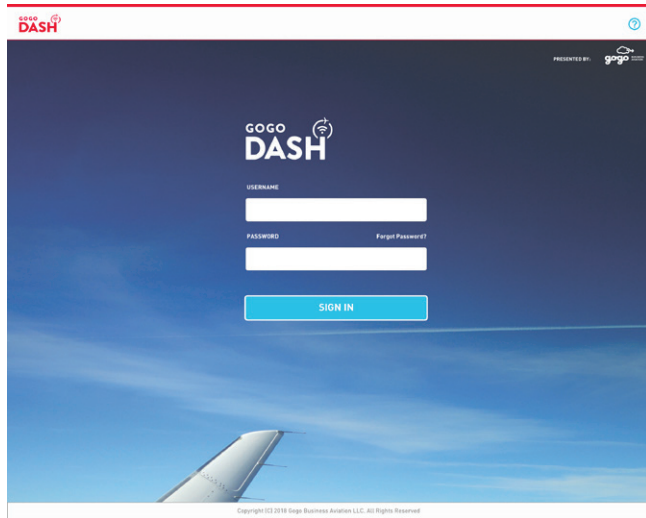
Gogo DASH Connectivity Insights is one component of the Gogo DASH toolkit. The toolkit consists of the front-end applications, back-end systems, and processes that capture and display Gogo installed equipment, and network, operation, and general logistical information regarding that aircraft and its associated fleet.

DASH Connectivity Insights primary features:

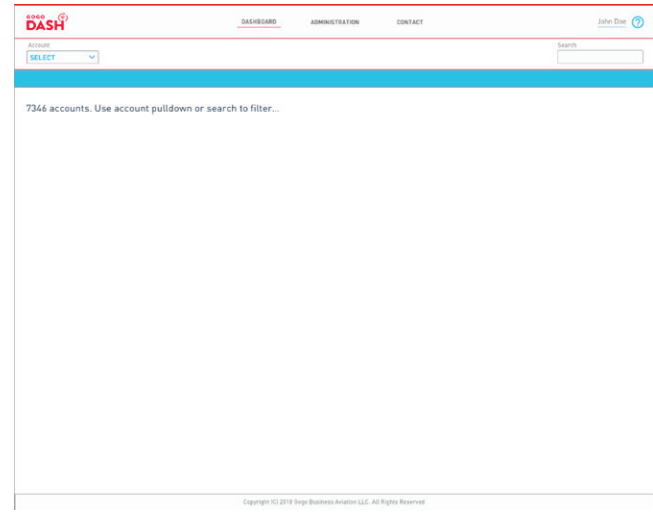
1. Web application that is agnostic to personal device type and browsers
2. Fleet and single aircraft views
3. Aircraft flight summary/overview
4. Installation and operational information regarding Gogo equipment on the aircraft
5. Summary and individual connected device information
6. Summary reporting on fleet and Individual aircraft

DASH CONNECTIVITY INSIGHTS PAGE NAVIGATION

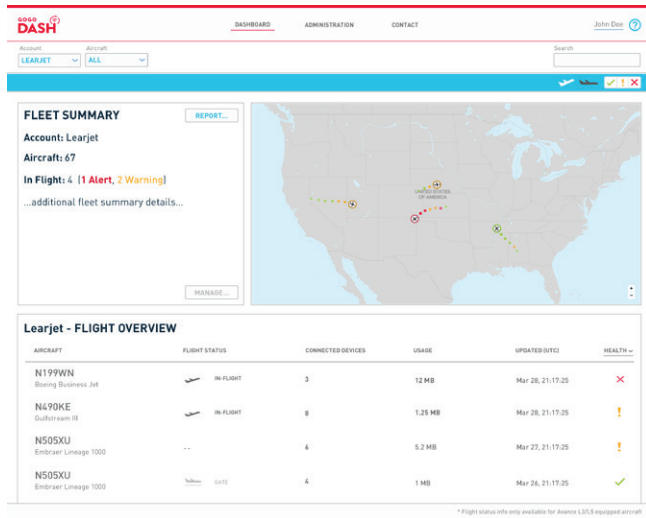
1. Login



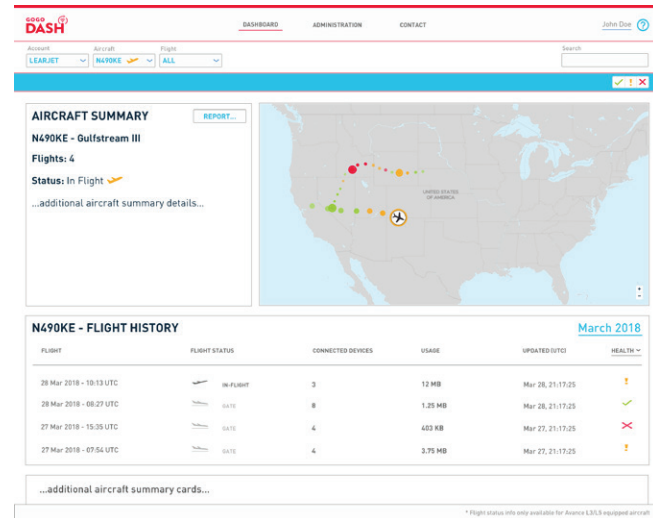
2. Login accepted - loading account



3. Aircraft information – fleet summary



4. Aircraft information – specific tail summary



5. Aircraft information – network

INTERVAL DETAIL
 Aircraft: N490KE
 Flight: 24 Jul 2018 UTC 11:00
 In Flight

ASA: 12.231
 DRC: -1.123
 USAGE DOWNLOAD: 12.0 MB
 TOTAL USAGE: 125.5 MB
 TOTAL NETWORK EVENT EVENTS: 0

Interval UTC	Health	Altitude	Lat.	Lng.
UTC 12:15	●	10281 ft	37.21	122.42
UTC 12:20	●	11781 ft	37.11	119.22
UTC 12:25	●	13281 ft	37.01	116.87
UTC 12:30	●	14781 ft	36.91	112.91
UTC 12:35	●	16281 ft	36.81	109.12
UTC 12:40	●	17881 ft	36.71	106.99
UTC 12:45	●	19281 ft	36.61	105.57

NETWORK
 GOGO BIZ NETWORK
 (Above Service Altitude)

Latitude: 34.94221 N Longitude: -121.8991 W

6. Aircraft information - device usage

FLIGHT SUMMARY
 N490KE - Gulfstream III
 Intervals: 6
 Status: In Flight

ASA: 143 min
 USAGE DOWNLOAD: 113.5 MB
 USAGE UPLOAD: 12.0 MB
 TOTAL USAGE: 125.5 MB
 VOLUME CONTROL EVENTS: 0

Interval UTC	Health	Altitude	Lat.	Lng.
UTC 12:15	●	10281 ft	37.21	122.42
UTC 12:20	●	11781 ft	37.11	119.22
UTC 12:25	●	13281 ft	37.01	116.87
UTC 12:30	●	14781 ft	36.91	112.91
UTC 12:35	●	16281 ft	36.81	109.12
UTC 12:40	●	17881 ft	36.71	106.99
UTC 12:45	●	19281 ft	36.61	105.57

USAGE

MANUFACTURER	IMEI ADDRESS	IP ADDRESS	UPLOAD	DOWNLOAD
Windows XP	01-F1-A0-04-04-79	193.168.0.6	98.4 MB (92%)	1.4 MB (47%)
Phone 6S Plus	70-10-70-AC-09-00	243.160.70.74	0.1 MB (0%)	805.4 KB (30%)
Macbook Pro	af-09-08-04-fc-3e	198.104.81.89	102.0 KB (7%)	79.2 KB (3%)
Phone 7 Plus	40-02-07-fa-09-00	192.20.128.250	2.4 MB (1%)	6.4 MB (2%)

7. Aircraft information - device SINR/DRC

FLIGHT SUMMARY
 N490KE - Gulfstream III
 Intervals: 6
 Status: In Flight

ASA: 143 min
 USAGE DOWNLOAD: 113.5 MB
 USAGE UPLOAD: 12.0 MB
 TOTAL USAGE: 125.5 MB
 VOLUME CONTROL EVENTS: 0

Interval UTC	Health	Altitude	Lat.	Lng.
UTC 12:15	●	10281 ft	37.21	122.42
UTC 12:20	●	11781 ft	37.11	119.22
UTC 12:25	●	13281 ft	37.01	116.87
UTC 12:30	●	14781 ft	36.91	112.91
UTC 12:35	●	16281 ft	36.81	109.12
UTC 12:40	●	17881 ft	36.71	106.99
UTC 12:45	●	19281 ft	36.61	105.57

SINR/DRC

Interval UTC	Health	SINR 1	DRC 1	SINR 2	DRC 2
UTC 12:15	●	10.1231	1791	11.0114	1801
UTC 12:20	●	10.1231	1791	11.0114	1801
UTC 12:25	●	10.1231	1791	11.0114	1801
UTC 12:30	●	10.1231	1791	11.0114	1801
UTC 12:35	●	3.9456	1791	11.0114	1801
UTC 12:40	●	10.1231	1791	11.0114	879
UTC 12:45	●	10.1231	1791	2.0123	1801

8. Aircraft summary report

Aircraft Report
 Summary

FLIGHTS: 0 TOTAL USAGE: 0 MB
 CONNECTED DEVICES: 0 VOLUME CONTROL EVENTS: 0

Aircraft Summary
 N490KE

INTERVALS: 6
 STATUS: In Flight

USAGE: 143 min
 USAGE DOWNLOAD: 113.5 MB
 USAGE UPLOAD: 12.0 MB
 TOTAL USAGE: 125.5 MB
 VOLUME CONTROL EVENTS: 0

SINR/DRC

Interval UTC	Health	SINR 1	DRC 1	SINR 2	DRC 2
UTC 12:15	●	10.1231	1791	11.0114	1801
UTC 12:20	●	10.1231	1791	11.0114	1801
UTC 12:25	●	10.1231	1791	11.0114	1801
UTC 12:30	●	10.1231	1791	11.0114	1801
UTC 12:35	●	3.9456	1791	11.0114	1801
UTC 12:40	●	10.1231	1791	11.0114	879
UTC 12:45	●	10.1231	1791	2.0123	1801

DASHBOARD DESCRIPTION

The Dashboard is the initial screen that allows you to navigate Connectivity Insights. The menu at the top of the screen will guide you through the system.

There are six columns of viewable data with an aircraft search function to find individual tail numbers. These elements can be ordered by clicking on the column names.

FIELD NAME	DEFINITION
Aircraft	Fleet aircraft tail number
Flight Status	Current status of the aircraft (in-flight or at gate)
Connected Devices	Number of currently connected devices
Usage	In-flight only measure and combines both upload and download usage
Updated UTC	Last updated time slice of data
Health	Gogo system health

- › **Login/Authentication**
- › **External vs. Internal login**
 - External sees just their fleet
 - Dashboard basic health status
 - Choose flight
 - Click through tabs
 - Click through time dots on map
- › **Internal sees system-wide view**
 - Fleet view all accounts
 - Choose flight
 - Click through tabs
 - Click through time dots on map
- › **Data**
 - Derivation is from real data feeds
 - DASH displays data for a 14-day window; after 14 days, that data becomes historical
 - Data refresh - approximately every 25 minutes for AVANCE systems and 45 minutes for Gogo Biz ATG systems
- › **General navigation clicks point, and data will change in the Tabs Network, Hardware, devices, services**
 - On that specific tail, we can pick up flights for that tail within a 14-day window
- › **Reporting**
 - Available for a specific aircraft or a fleet
 - Reporting is for a 90-day window
- › **DASH administrators can add users within their organization**
 - Performance indicators
 - o Green: systems performing as expected
 - o Yellow: Signal-to-Noise Ratio (SiNR) and/or Data Rate Consumption (DRC) is below the expected threshold
 - o Red: system(s) performance is not performing as expected

SPECIFIC AIRCRAFT-SUMMARY DETAIL AND FLIGHT DERIVATIONS

Once you select an aircraft tail number from the fleet list, you will be taken to the Aircraft Summary and Flight selection page. This page will allow you to identify one or more flight derivations you would like to inspect.

[DASHBOARD](#)
[ADMINISTRATION](#)
[CONTACT](#)

John Doe

Account
LEARJET

Aircraft
N490KE

Flight
ALL

Search

AIRCRAFT SUMMARY

N490KE - Gulfstream III

Flights: 4

Status: In Flight

...additional aircraft summary details...

N490KE - FLIGHT HISTORY

March 2018

FLIGHT	FLIGHT STATUS	CONNECTED DEVICES	USAGE	UPDATED (UTC)	HEALTH
28 Mar 2018 - 10:13 UTC	IN-FLIGHT	3	12 MB	Mar 28, 21:17:25	
28 Mar 2018 - 08:27 UTC	GATE	8	1.25 MB	Mar 28, 21:17:25	
27 Mar 2018 - 15:35 UTC	GATE	4	403 KB	Mar 27, 21:17:25	
27 Mar 2018 - 07:54 UTC	GATE	4	3.75 MB	Mar 27, 21:17:25	

...additional aircraft summary cards...


* Flight status info only available for Avance L3/L5 equipped aircraft

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Once you select a flight, you will be taken to a detailed page that will allow you to choose information summaries on:

- > Overview
- > Network
- > Hardware
- > Devices
- > Services



DASHBOARD
ADMINISTRATION
CONTACT

John Doe ?

Account: LEARJET
Aircraft: N490KE
Flight: UTC 11:00
Interval: UTC 12:15

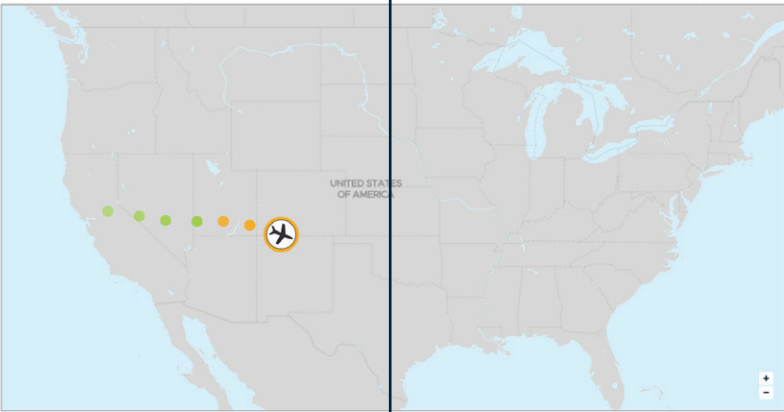
Search

INTERVAL DETAIL

[REPORT](#)

Aircraft: N490KE
Flight: 24 Jul 2018 UTC 11:00
In Flight ✈️

SINR	12.231
DRC	-1.123
USAGE UPLOAD	12.0 MB
TOTAL USAGE	125.5 MB
TOTAL NETWORK MGMT EVENTS	0



Interval UTC	Health	Altitude	Lat.	Lng.
UTC 12:15	●	10281 ft	37.21	122.42
UTC 12:20	●	11781 ft	37.11	119.22
UTC 12:25	●	13281 ft	37.01	116.87
UTC 12:30	●	14781 ft	36.91	112.91
UTC 12:35	●	16281 ft	36.81	109.12
UTC 12:40	●	17881 ft	36.71	106.99
UTC 12:45	●	19281 ft	36.61	105.57

NETWORK
HARDWARE
DEVICES !
SERVICES

GOGO BIZ NETWORK

(Above Service Altitude)

LATITUDE	36.942215	ALTITUDE	18957 ft.
LONGITUDE	-121.3591		

Data Rate Consumption: -- Signal To Noise Ratio: --

* Flight status info only available for Avance L3/L5 equipped aircraft

SPECIFIC AIRCRAFT-NETWORK DETAIL

Once you select a tail number from the Fleet Dashboard, you will be taken to that flight's current flight map and detail screen for Network information. The Network tab will allow you to visualize the connection source and see details about each source.

Example

CONNECTION SOURCES	GOGO BIZ NETWORK	
Swiftbroadband	{Above service altitude}	
Satellite	Latitude	Altitude
Gogo Biz	Longitude	Horizontal velocity
Air-to-Ground internet	Time (UTC)	Vertical velocity
	Flight date	
	Data rate consumption	Signal-to-Noise Ratio (SINR)
	Data rate consumption 2 (2nd card)	Signal-to-Noise Ratio 2 (2nd card)

SPECIFIC AIRCRAFT-HARDWARE DETAIL

Once you select a tail number from the Fleet Dashboard, you can navigate to the Hardware submenu to find the Gogo equipment information and user guides associated with the aircraft.

Note: If the flight department has chosen to switch equipment on an aircraft and has not updated the maintenance logistics records associated with Gogo equipment management, information displayed within the associated Hardware submenu might be delayed or inaccurate.

Sep 24th - 4:10 PM America/Denver

ACM

AIRCRAFT ID (ACID) **BFDE65**

AVANCE L5

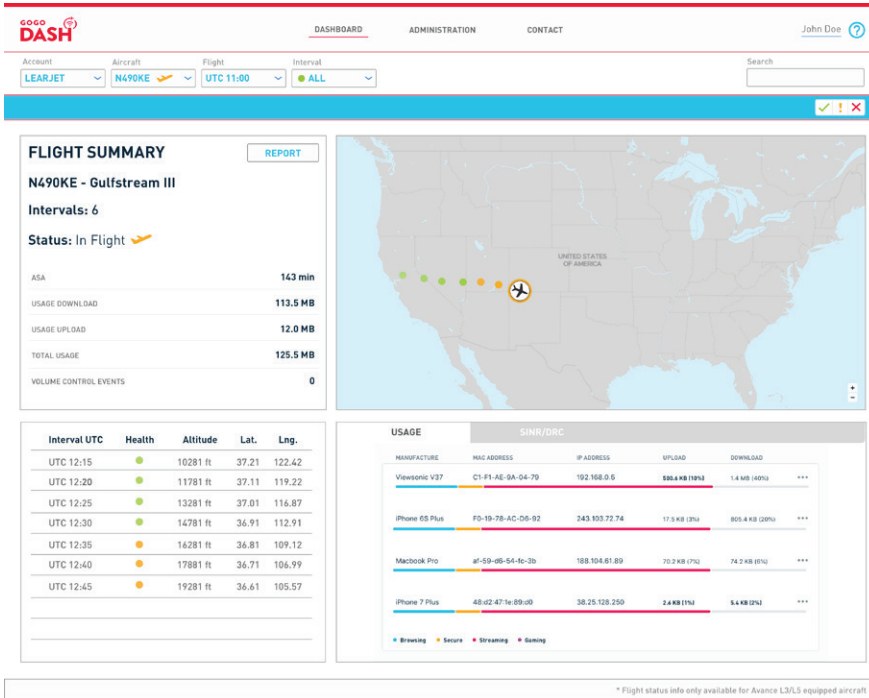
SERIAL NUMBER **3411000200249** REVISION CODE **B**

SOFTWARE VERSION **2.0.0.30065**

User Guides

SPECIFIC AIRCRAFT-CONNECTED DEVICES DETAIL

Once you select a tail number from the Fleet Dashboard, you can navigate to the connected devices detail submenu item to find the device summary information page. This page lists a summary of all connected devices and a general summary of usage with respect to how the devices are using the bandwidth.



* Flight status info only available for Avance L3/L5 equipped aircraft

A list of connected devices is shown. IP addresses are always available along with the individual device usage. MAC addresses and device manufacturers will not always be available. As DASH incorporates more informational resources, this information will be populated when available.

Interval UTC	Health	Altitude	Lat.	Lng.
UTC 12:15	●	10281 ft	37.21	122.42
UTC 12:20	●	11781 ft	37.11	119.22
UTC 12:25	●	13281 ft	37.01	116.87
UTC 12:30	●	14781 ft	36.91	112.91
UTC 12:35	●	16281 ft	36.81	109.12
UTC 12:40	●	17881 ft	36.71	106.99
UTC 12:45	●	19281 ft	36.61	105.57

USAGE		SINR/DRC			
MANUFACTURE	MAC ADDRESS	IP ADDRESS	UPLOAD	DOWNLOAD	
Viewsonic V37	C1-F1-AE-9A-04-79	192.168.0.5	500.6 KB (10%)	1.4 MB (40%)	***
iPhone 6S Plus	F0-19-78-AC-D6-92	243.103.72.74	17.5 KB (3%)	805.4 KB (20%)	***
Macbook Pro	af-59-d6-54-fc-3b	188.104.61.89	70.2 KB (7%)	74.2 KB (6%)	***
iPhone 7 Plus	48:d2:47:1e:89:d0	38.25.128.250	2.6 KB (1%)	5.4 KB (2%)	***

Legend: ● Browsing ● Secure ● Streaming ● Gaming

SPECIFIC AIRCRAFT-SERVICES DETAIL

Once you select a tail number from the Fleet dashboard, you can navigate to the services detail submenu item to find the service summary information page. This page will list a summary of all provisioned services associated with the aircraft.

Plan Information

TYPE OF PLAN	Gogo Biz 4G Data Pro	USAGE THIS CYCLE	21,862 mb
TRAFFIC SHAPING POLICY	BA_High		

Gogo Vision

SERIAL NUMBER	50678	SOFTWARE VERSION	1.5
CONTENT VIEWS	4	CATALOG VERSION	127

[User Guide](#)


REPORTING

Easily run reports via the REPORT option in the FLIGHT SUMMARY. This reporting feature allows you to take a 90-day look at your fleet or individual tail-numbered aircraft.

FLIGHT SUMMARY

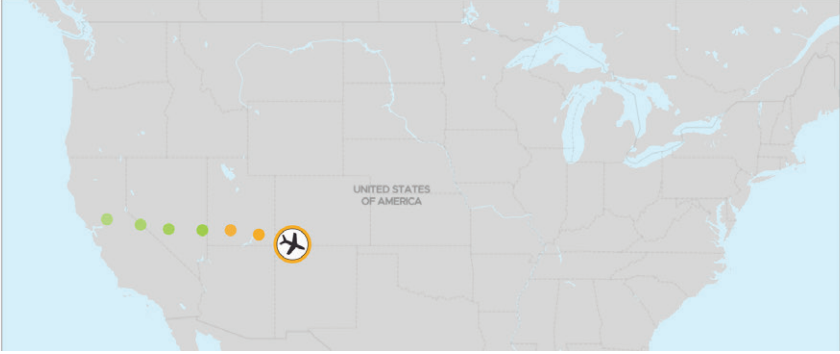
N490KE - Gulfstream III

Intervals: 6

Status: In Flight 

ASA	143 min
USAGE DOWNLOAD	113.5 MB
USAGE UPLOAD	12.0 MB
TOTAL USAGE	125.5 MB

REPORT



Individual aircraft report

DASH DASHBOARD ADMINISTRATION CONTACT John Doe ?

Account: **LEARJET** Aircraft: **N490KE** Flight: **ALL** Search

Aircraft Report

Summary 06/27/2018 - 09/24/2018

FLIGHTS	0	TOTAL USAGE	0 MB
CONNECTED DEVICES	0	VISION VIEWS	0

Aircraft Summary

N290EE
EMBRAER

4/27 4/28 4/29 4/30 7/01 7/02 7/03 7/04 7/05 7/06 7/07 7/08 7/09 7/10 7/11 7/12 7/13

OVERALL

NETWORK

CONNECTED DEVICES

DISCLAIMER: All usage data displayed is estimated and may differ from actual usage billed.

Once you choose to generate the report, the following information will be displayed for either a fleet or an individual aircraft.

All aircraft fleet report

< All Aircraft
01/23/2017 - 02/04/2018

Fleet Summary		TOTAL USAGE	
AIRCRAFT	52	CALLS	87,173 MB
FLIGHTS	569	TEXTS	8
CONNECTED DEVICES	2,193	PICTS	29
HEARTBEAT AVAILABILITY %	98.3%		

Aircraft Summary

N199WN
Doveing Business Jet

	<	1/23	1/24	1/25	1/26	1/27	1/28	1/29	1/30	1/31	2/01	2/2	2/3	2/4	>
OVERALL		✓	✓	✓	✓					✓		✓	✓	✓	
NETWORK		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
GOOD TEXT & TALK		✓	!	✓	✓	✓	✓	✓	✓	!	✓	✓	✓	✓	
VISION		✓	✓	✓	✓				✗	✗	✓	✓	✓	✓	

N490KE
Outstream III

	<	1/23	1/24	1/25	1/26	1/27	1/28	1/29	1/30	1/31	2/01	2/2	2/3	2/4	>
OVERALL		✓	✓	✓	✓					✓	✓	✓	✓	✓	
NETWORK		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
GOOD TEXT & TALK		✓	!	✓	✓	✓	✓	✓	✓	!	✓	✓	✓	✓	
VISION		✓	✓	✓	✓					✗	✗	✓	✓	✓	

N505XU
Embraer Lineage 1000

	<	1/23	1/24	1/25	1/26	1/27	1/28	1/29	1/30	1/31	2/01	2/2	2/3	2/4	>
OVERALL		✓	✓	✓	✓					✓	✓	✓	✓	✓	
NETWORK		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
GOOD TEXT & TALK		✓	!	✓	✓	✓	✓	✓	✓	!	✓	✓	✓	✓	
VISION		✓	✓	✓	✓					✗	✗	✓	✓	✓	

N253XG
North American Sabreliner

	<	1/23	1/24	1/25	1/26	1/27	1/28	1/29	1/30	1/31	2/01	2/2	2/3	2/4	>
OVERALL		✓	✓	✓	✓					✓	✓	✓	✓	✓	
NETWORK		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
GOOD TEXT & TALK		✓	!	✓	✓	✓	✓	✓	✓	!	✓	✓	✓	✓	
VISION		✓	✓	✓	✓					✗	✗	✓	✓	✓	

USER ADMINISTRATION

An administrator of an account can request that additional users within the company be registered for account access. This is done through the ADMINISTRATION menu item at the top of the screen.

The screenshot displays the Gogo DASH Administration interface. At the top, there is a navigation bar with 'DASHBOARD', 'ADMINISTRATION' (highlighted), and 'CONTACT' tabs. The user 'John Doe' is logged in. Below the navigation bar, there are dropdown menus for 'Account' (set to 'LEARJET') and 'Aircraft' (set to 'ALL'), along with a search field. A blue bar contains icons for a plane, a warning, and a close button. The main content area is divided into two sections: 'FLEET SUMMARY' and 'Learjet - FLIGHT OVERVIEW'.

FLEET SUMMARY

Account: Learjet
Aircraft: 67
In Flight: 4 (1 Alert, 2 Warning)
...additional fleet summary details...

Learjet - FLIGHT OVERVIEW

AIRCRAFT	FLIGHT STATUS	CONNECTED DEVICES	USAGE	UPDATED (UTC)	HEALTH
N199WN Boeing Business Jet	IN-FLIGHT	3	12 MB	Mar 28, 21:17:25	✖
N490KE Gulfstream III	IN-FLIGHT	8	1.25 MB	Mar 28, 21:17:25	⚠
N505XU Embraer Lineage 1000	--	6	5.2 MB	Mar 27, 21:17:25	⚠
N505XU Embraer Lineage 1000	GATE	4	1 MB	Mar 26, 21:17:25	✔

* Flight status info only available for Avance L3/L5 equipped aircraft

You will need the following information to add users to your account:

- Confirmation of account they are associated with in the Gogo instance of Salesforce
- First name
- Last name
- Email address (this becomes the user ID)
- Welcome email is sent to this address

Once the ADMINISTRATION menu item is selected, you will have to choose an account or add a new user to an existing account.

- 1. After the account is selected, the Administrator will be asked to add the user.

The screenshot shows a 'Create New User' form with the following fields: FIRST NAME (Jill), EMAIL (jsmith@email.com), PASSWORD (masked), ADMIN (checkbox), LAST NAME (Smith), CONFIRM EMAIL (jsmith@email.com), and CONFIRM PASSWORD (masked). There are 'Required' labels in red below the EMAIL, PASSWORD, and CONFIRM PASSWORD fields. An 'Add New User' button is located to the right of the CONFIRM PASSWORD field. Below the form is a table with columns for NAME, EMAIL, and ACTIONS.

NAME	EMAIL	ACTIONS
Fenders 1a	fenders1a@example.com	▼
Max Berger	mberger@gogoair.com	▼

- 2. Add the user to the account
- 3. Added user has been added to the account list and can now be modified

The screenshot shows a table with user information and action buttons. The first row is highlighted and shows 'Max Berger' with email 'mberger@gogoair.com' and buttons for 'Edit User', 'Send Password Reset', and 'Delete User'. The other rows are 'Quander18 Test78' with email 'quander18test78@automatetest.com' and 'Quander27 Test8' with email 'quander27test88@automatetest.com'.

Max Berger	mberger@gogoair.com	Edit User	Send Password Reset	Delete User
Quander18 Test78	quander18test78@automatetest.com			
Quander27 Test8	quander27test88@automatetest.com			

CONTACT

The CONTACT top menu item will take you to information you need to contact Gogo Technical and Customer Support.

Technical Support

HOURS

Technical Support is available 24/7

USA PHONE TOLL-FREE

+1 888.286.9876 | Fax + 1 888.398.1800

INTERNATIONAL PHONE

+1 303.301.3278 | Fax + 1 303.301.3279

EMAIL

batechsupport@gogoair

Customer Support

HOURS

Monday—Friday | 0703-1700 (7:30 am-5:00 pm) MST

USA PHONE TOLL-FREE

+1 888.286.9876 | Fax + 1 888.398.1800

INTERNATIONAL PHONE

+1 303.301.3278 | Fax + 1 303.301.3279

EMAIL

bacustomerservice@gogoair

APPENDIX

Gogo systems engineering acronym guide

inside.gogoair.com/pages/viewpage.action?Spacekey=NASO&title=The+guide+to+Gogo+acronym%27s

Legends, metrics, and scales

Within a flight interval

- Total network management events > 0

Health = WARNING

- Total network management events derive health status of the Network tab

Derive health status of the Network tab

Within an interval:

{ASA/BSA == ASA} and {SINR >= 5} and {DRC >= 1800}

Health = HEALTHY

{ASA/BSA == ASA} and {5 > SINR > 1}

Health = WARNING

{ASA/BSA == ASA} and {DRC < 1800}

Health = WARNING

{ASA/BSA == ASA} and {SINR <= 1}

Health = ALARM is 0

Health = HEALTHY

Gogo equipment and supported services

Equipment supported:

- › AVANCE L5/L5i/L3
- › AVANCE SCS Media/SCS Elite
- › UCS 5000
- › ATG 1000/2000/4000/5000
- › ST4200
- › ST4300
- › Swiftbroadband (Aviator 300/350/700);
Services and information supported
- › Plan information
- › Gogo Vision
- › Gogo Text and Talk

Bearers supported

- › Gogo Biz/Gogo Biz 4G network
- › Terrestrial modem
- › Iridium
- › Swiftbroadband

Supported operating systems

- › The system is device and OS agnostic.
- › This product was built with a strategic continual deployment and development strategy that enables very quick time to market for vetted change requests.

Connect with us:

105 Edgeview Drive, Suite 300
Broomfield, CO 80021
USA

+1 888.328.0200 *Toll-free*
+1 303.301.3271 *Worldwide*
connect@gogoair.com *Email*

business.gogoair.com