DIGITAL SKIES

Service description

DP as a Service

Revision History

Revision Date	Rev. No	Summary of changes
23-03-2019	V1.0	First release
15-04-2019	V1.1	Typos and minor text changes
12-01-2023	V1.2	Misc. updates

Documentation
Quotation
Customer contract
Support and escalation

1. Introduction

This document describes the DP as a Service product provided by Digital Skies. As this document describes the DP as a Service offering in the most detailed way, it is considered the 'leading' documentation.

DP as a Service provides a certified Inmarsat DP with various types of services: Infrastructure (from LES to PoP), Radius, Co-location (PoP), provisioning, monitoring, online firewalling, IP Routing (APN), reporting and billing (optional).

It is expected that the DP has a good understanding of Inmarsat's products, Inmarsat's pricing structure and Inmarsat's Terms and Conditions. The DP is responsible for its relationship with Inmarsat.

2. General company information

Digital Skies LLC was established in 2005 and has offices in the USA as well as in The Netherlands, United Kingdom and Singapore.

Digital Skies is specialized in software development with dedicated focus on the satellite communication community. Digital Skies offers a suite of software packages ranging from billing, provisioning, PoP, firewall and managed service solutions. Those various platforms enable the partner to operate more efficiently and cost effectively. In addition, Digital Skies provides global network connectivity throughout a number of state of the art PoPs. Digital Skies provides integrated services for Inmarsat Distribution Partners (DPs) and Iridium Service Providers (SPs) and is a single point of contact for every aspect of the DP as a Service platform.

3. DP as a Service

3.1. User interface and application access

The main user interface for DP as a Service is the Integrated Billing and Information System (IBIS). Other user interfaces may be included depending on requirements of the DP

Every IBIS system will be tailored to the DPs using their business logo.

Every DP has its own user administration, and uses a user and role based security mechanism. This means that every user gets a personal user account, based on default user roles. This user role determines the functions that are accessible in the software. Digital Skies Support staff have accounts on every IBIS instance for routine support and maintenance purposes.

Within IBIS, access, user actions and security events are tagged with a code and logged for auditability. Application level access is controlled by the owner of the IBIS instance.

Two factor authentication (2FA) is available as a standard IBIS component.

3.2. Infrastructure capabilities

The current terrestrial infrastructure in use by Digital Skies is directly connected to Paumalu (Digital Skies connects directly into the GGSN of Inmarsat Land Earth Stations) and to Burum through the Amsterdam Meet me Point (MmP). From both sites, the traffic is routed to Digital Skies' PoP infrastructure. The Digital Skies infrastructure contains 3 PoPs located in:

- Houston, TX, USA
- London, UK
- Sydney, Australia

The DP's (logical) APN (Access Point Name) is pointed (mapped) to Digital Skies' APN (DS1.bgan.inmarsat.com). Based on the APN, Inmarsat will route all IP traffic to one of the preferred PoPs. The logical APN is the customer facing APN owned and controlled by the DP. It will utilize the Radius from Digital Skies.

The PoP can deliver the IP packet either to the public internet or to a private network (e.g. VPN/MPLS etc). IP traffic will be routed through an online managed firewall before it is delivered to the public internet. Additional services that are supported include but are not limited to private network interconnects using VPN tunnels, T1/E1 access, Fast Ethernet handoff and other services directly into the secure data center. This will ensure a secure delivery of data services to the private network of the customer of the DP, as well as normal integration with value added services and provisioning. Hosting DP and end customer equipment (User Equipment) in secured co-location racks is also available as a service at additional cost. In summary:

- Inmarsat Spectrum Access System (SAS) to PoP connectivity – connecting the Inmarsat ground infrastructure through DS redundant network to the public internet or a private network
- Online Firewalling (Packet Filter)
- Closed User Groups / VPNs

Service configuration changes are maintained in IBIS.

3.3. Provisioning & Monitoring capabilities

To enable the provisioning module, IBIS is connected to the applicable provisioning interface at Inmarsat as well as to the Digital Skies PoP and network infrastructure.

The provision process of the SIM card or IDP terminal consists of three steps:

- Inmarsat provisioning system
- Digital Skies PoP and network infrastructure, including firewall
- IBIS billing and/or provisioning module

In a relatively short time an Inmarsat Background IP terminal can generate substantial amount of traffic. In order to control the usage of data, IBIS enables the partner to set up traffic monitors. IBIS automatically imports CDRs as soon as Inmarsat makes those CDRs available. IBIS may also be extended to the DPs customers to enable end-users to set alerts themselves; this can be done for an individual card or a group of cards. A traffic monitor will trigger an email alert and/or automatic suspension of service.

3.4. Billing capabilities

In order for companies to resell satellite services, a sophisticated billing platform is essential. DP as a Service provides a unique billing module that enables companies to produce an invoice in a very efficient manner. The billing module is optional and is charged separately.

This module in IBIS is a secure turn-key integrated online billing platform that can be used not only for producing an automated invoice, it serves many other purposes. For instance: looking up rated call records, creating price plans, downloading invoices, usage and charges reporting and view change history'

IBIS provides the option to implement sales tax and different currencies for invoicing. In addition, it can assign cost centers to (groups of) devices and add one time/additional fees to customer invoices.

IBIS can also function as a pre-billing platform only, in which the DP exports the information from IBIS into its own accounting system to generate customer invoices. This feature is considered an add-on to the standard offering.

The following section shows a number of important controls that are embedded into the IBIS application to monitor the correctness of its own data and behaviour. These controls serve accuracy of billing.

- Mediation Indicators: For each feed of Call Detail Records, the application allows the client to configure the platform to "expect" certain amount of records (CDRs) within expected time frames; if it is out of the expected values, an alert is triggered (the CDR feed is highlighted in red). This prevents IBIS from generating incorrect information, as a result of changes (application changes, customer setup changes, or changes in the systems of airtime providers).
- Before starting the 'End of Month' process, IBIS will check if Call Detail Record files could be interpreted and reports these mediation failures (if any) to the billing operator. This enables the billing operator to assess the impact of the problem and determine if the end of month process should continue.
- The IBIS rating engine includes a function to compare the calculated price of every CDR against the cost price of the CDR as specified by the airtime provider, and generate a rating error in case the price is below cost price. This mechanism is used to detect errors in setup of a price plan (both on vendor side as on IBIS side), and this mechanism can trap errors in the rating engine itself.
- Health System Monitors: IBIS includes a generic health monitoring system that can be used to detect possible issues in the IBIS database. This health monitor system is used to let IBIS automatically check certain key performance indicators of the system.
- Real time feedback: many actions in the system are executed in real time, and give immediate feedback to the user who initiated them.
- E-mail feedback of non-real time provisioning actions: Provisioning actions executed by IBIS can take a few minutes before they are processed by the Network Operator. IBIS can send both positive and negative provisioning notifications.
- Draft mode invoicing: When running 'End of Month', IBIS first renders all invoices in draft mode. At this stage the billing operator can review the invoices. By reviewing the invoices, the financial results of all the underlying processes are being reviewed. Only after the billing operator has confirmed the draft invoices are correct, the system will produce the final version of the invoices, and send them to the customers.

4. Roles and responsibilities

4.1. PoP Infrastructure

The DP is required by Inmarsat to manage its own IP network. Below is a list of roles and responsibilities mainly applicable to the DP's network engineering staff.

4.1.1. Responsibility of Digital Skies

- Provide connectivity between Inmarsat's GGSN (Paumalu and Burum) and the PoP in Houston, Texas, USA or London, UK. This means that Digital Skies is responsible for routing the IP traffic of a particular APN to the PoP of a DP.
- Satellite operator is responsible for delivery of voice, SMS and ISDN traffic to the PSTN network, NOT Digital Skies.
- Provide Radius Services; this means that Digital Skies is responsible for the full authorization process of a data call.
- Provide online packet filter firewall services 'rule sets'; Digital Skies is responsible for providing access to the firewall platform through the IBIS front end/portal. The DP has to set its own packet filter rules. Digital Skies cannot be held liable for traffic disputes.
- Access to IP Log Reports. The IP Log Reports are accessible through IBIS. The files include IP destination and origination address, type of IP traffic, URL, protocol usage and time stamp. A separate Factsheet is available for this service
- Wireshark/Packet trace can be requested for a period of 24 hours for a select number of SIM cards. This will take up to 48 hours (working days) and is limited to 10 requests per month.
- Provide IP addresses (public/private static). There is a monthly cost for public static IP addresses.
- Provide 24/7 support for critical infrastructure issues.
- .
- Provide service notifications, see 8.1.
- DP has option available to offer a VPN/MPLS network and hosting services to its customers. Additional costs are incurred for implementation of such network.
- Provide online training on how to use firewalls (packet filter).

4.1.2. Responsibility of the DP

- Use IBIS to provision the SIM card on the Digital Skies infrastructure
- Use IBIS to set the correct firewall rules set
- Use IBIS to create support ticket for further Digital Skies support
- Keep knowledge of firewall functions up to date
- 1st tier technical support (PoP, network related) to customers

DP is responsible for keeping IBIS and Inmarsat's provisioning systems in synch after (manual) work in Inmarsat's provisioning systems.

4.2. IBIS/Provisioning & Monitoring

The DP is required by Inmarsat to manage its own provisioning tasks. This can be done manually in the Inmarsat provisioning systems or through IBIS into the Inmarsat systems. Below is a list of roles and responsibilities mainly applicable to the DP's billing/activation/provisioning staff.

4.2.1. Responsibility of Digital Skies

- Provide connectivity between IBIS and Inmarsat provisioning systems (for both postpaid and prepaid) in order to execute orders like: activation/deactivation, change packages and suspend/resume. This is a best effort platform.
- Update the satellite operator's libraries ('vendor rate' plans) based on the DPs requests.
- CDR mediation; provide mechanism to load raw Inmarsat CDRs into IBIS, based on the frequency in which the satellite operator provides the CDRs to the DP
- Make rated CDRs available in IBIS for DP to download in own billing system
- Provide warning mechanism if provisioning order fails
- Provide visibility of order history
- Provide traffic alert/monitor function. This function is dependent on the frequency in which the satellite operator provides the CDRs to the DP.
- Provide training on how to execute upon an activation/deactivation, change package and suspend/resume, how to set up a new user/ how to set up alert/monitor function etc.
- Depending on the cause of a provisioning failure, Digital Skies will either provide a solution or will advise the DP to escalate the order to the Satellite Operator. If urgent, the DP should attempt to execute the provisioning order directly in the Inmarsat provisioning systems and synchronize in IBIS later on.
- System Health Checker: provide multiple monitor options for regular, expected CDR feeds, SIM card inventory, provisioning failures etc.

IMPORTANT:

Usage monitoring is not equivalent to a prepaid usage service. Instead, monitoring of usage is provided to assist the customer with managing their usage costs; the responsibility for actual usage by the Customer's terminals remains with the Customer even if the monitoring system fails to perform as expected due to scheduled or unscheduled outages or delays in CDR processing. Digital Skies cannot be held liable for traffic disputes.

Regarding the operation of the Digital Skies systems, including but not limited to firewalls, Digital Skies cannot be held liable for excessive data usage. The available firewall applications use industry standard software and appliances that are monitored and provided in a best-effort delivery environment. Digital Skies strongly advise to never rely only on a single appliance for the management of IP data traffic. It is the DP's and their customers' responsibility to implement and use additional systems available.

4.2.2. Responsibility of the DP

The provisioning order process in the platform of the satellite provider remains the responsibility of the DP; IBIS is a tool to manage this process more efficiently. In order to meet the DP provisioning requirement, the DP needs to:

- Maintain knowledge levels on Inmarsat provisioning systems amongst staff in order to execute provisioning tasks (e.g. in case IBIS fails).
- Maintain knowledge levels on the I-4 prepay platform and how to order and upload prepaid voucher into IBIS
- Maintain knowledge on vendor rate plans and configurations
- Understand the SIM migration process between DPs and the possible infrastructure overlap
- Maintain knowledge levels on IBIS provisioning features amongst staff, which includes:

    - Upload inventory, e.g. SIM cards details, MSISDNs in IBIS
    - Upload SCAP ID and link to vendor rate plan
    - Create Major Corporate, create vessel
- Manage traffic monitoring; set up traffic monitors and alerts
- Monitor IBIS health checks

4.3. IBIS/Billing

If the DP has decided for the option to use IBIS also as a billing platform the below list of roles and responsibilities is mainly applicable to the DP's billing/accounting staff.

4.3.1. Responsibility of Digital Skies

- Provide a platform that enables the DP to invoice its customers, one billing cycle per calendar month
- Provide mechanism to automatically load CDRs from various airtime vendors
- Provide training and written instructions (through an online knowledge base) on how to execute upon creating a price plan, run 'End-of-Month', check on CDRs accuracy
- Provide billing support during (US and Europe) office hours. After office hour support can be offered as an additional service.

4.3.2. Responsibility of the DP

- Appoint a dedicated Billing/IBIS administrator
- Create customer accounts and enter billing details (e.g. payment terms, invoice layout, cost center definition)
- Add and assign SIM cards/terminals to customer accounts
- Create and manage customer price plans (including allowance, increments and minimum duration)
- Customer subscriptions management (commitment period, expiration, renewal)
- Management of (sales) tax definitions
- Run validations check for End of Month bill run, including:
    - Set up non-US currency (exchange rate)
    - Check mediation of CDR files
    - Check non-rated CDRs
    - Review draft invoices
    - Approval of final invoices
- Provide 1st tier billing support to internal/external DP billing entities and rebillers
- Provide billing support to customers
- Management of import/export IBIS data (e.g. invoice data to accounting system)

5. Operations

5.1. IBIS operations

Digital Skies servers running IBIS are owned by Digital Skies and installed in a third-party commercial data center in Amsterdam, the Netherlands. The rackspace is commercially rented via Trans-IP B.V., and the physical data center is operated by The DataCenter Group B.V (DCG). Digital Skies partnering Pragmalogic is responsible to maintain and develop the IBIS platform.

On the Digital Skies servers, Digital Skies takes care of the server operations. This includes:

- Hardware maintenance. On hardware level, we distinguish between the shared components in the data center, and the Pragmalogic server itself.
- Data Center operations: The data center is responsible for power supply, internet connectivity, and monitoring of these.
- Pragmalogic operations facilities: Physical server hardware, including storage.
- OS Maintenance: IBIS runs on Microsoft Windows Server, with automatic updates configured. This way, the regular OS maintenance is completely automated.
- Database backups: The IBIS database runs on SQL server, with a maintenance plan that takes care of a weekly full database backup, and a daily differential backup. Backup files are automatically uploaded to the Pragmalogic facilities, where they are kept for two weeks, and automatically restored on a database server that is used for support environment. This way, the backup and restore process is implicitly tested.

5.2. PoP Operations

The Digital Skies PoPs are owned by Digital Skies and installed in third-party commercial data centers in Houston, London and Sydney.

On the Digital Skies PoPs, operations include but are not limited to:

- Hardware maintenance. On hardware level, we distinguish between the shared components in the data center, and the PoP hardware itself.
- Data Center operations: The data centers are responsible for Primary power and backup power.. Digital Skies is responsible for the internet connectivity, including VPNs, MPLS and other connectivity, and for the monitoring of these connections.
- Digital Skies Operations:
    - Server hardware, and storage.
    - Software Maintenance: The PoPs run a wide variety of software components, all of which are monitored 24/7 and updated on a regular basis as part of our PoP release management.
- Redundancy:
    - Standard N+1 Redundancy.
    - Independent out of band management.
    - Servers, routers, switches, routers and power management have been designed with automated redundancy, ensuring continuous operations. The PoPs are configured with redundant internet providers.

6. Training

Digital Skies provides training to the DP's operational, technical support and billing teams. The training covers all aspects of the system that are applicable to each role & permission level, including access to Digital Skies online Knowledge Base.

Each training, based on the user roles for provisioning, technical and billing functions, takes up 3 to 4 hours, which can be divided in multiple training sessions of 1 hour. Training will take place online. The internet connection and audio of the training facility at the DP's premises should be of sufficient quality to record the training.

Before commencement of the training, the teams will be asked to read through the available documentation and will be given access to IBIS to navigate and perform a few tasks. Prerequisite to join the training is not only completion of mentioned tasks above but also knowledge of Inmarsat product and services, Pricing Structure and terms and conditions.

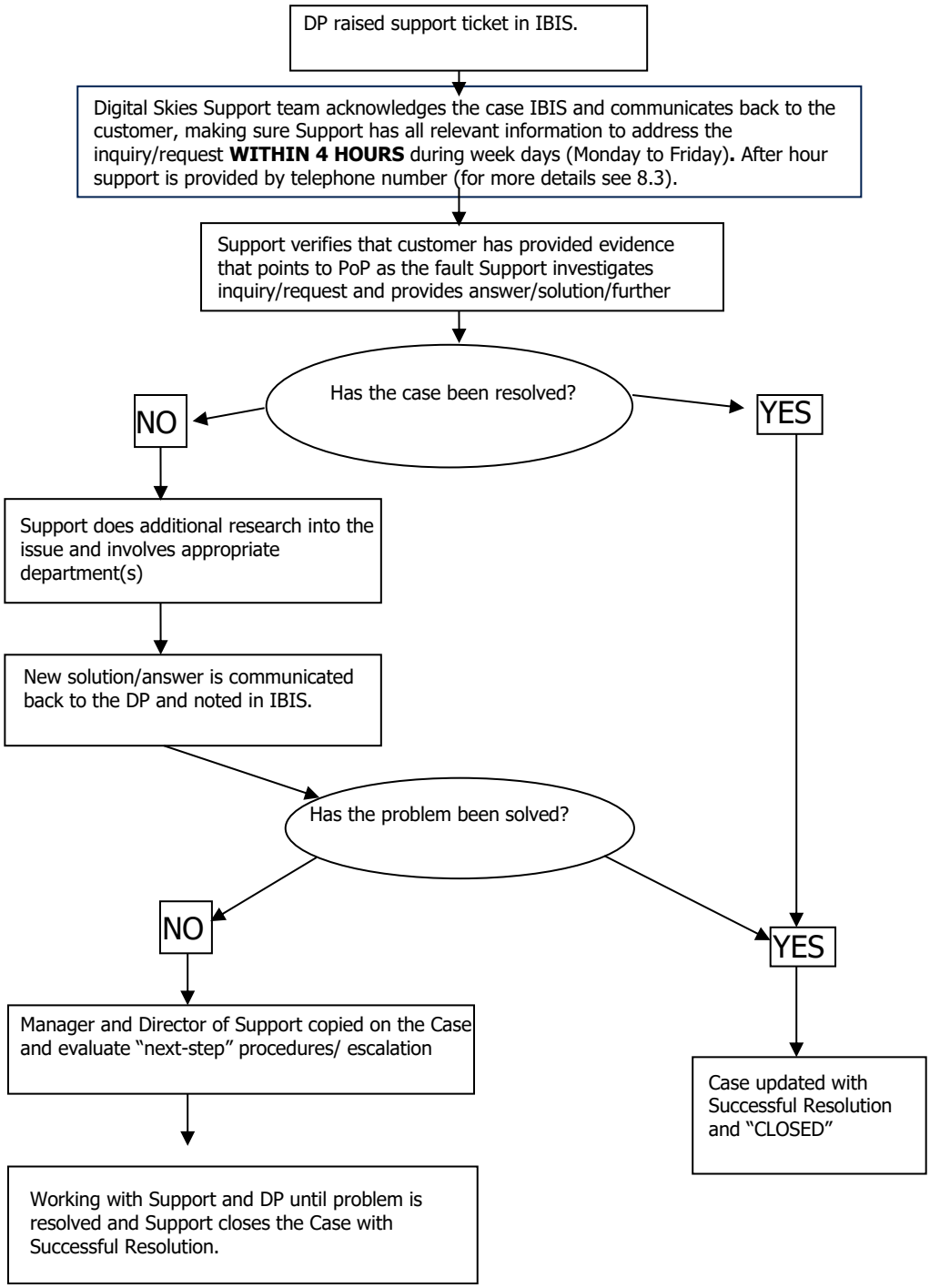
Additional training if required by the DP will be offered at $150 per hour.

7. Support

- Technical: All Technical Support issues are to be entered into IBIS by the DP, using the technical support template provided. Incoming inquiries related to technical problems are handled by Digital Skies First Tier Support to provide a resolution. Digital Skies support staff makes use of internal networking tools to troubleshoot and resolve the problem. Acknowledgement of a technical support ticket will be processed within 4 hours between 0800-1700 during the working week (Monday to Friday) if all relevant information to address the inquiry/request has been provided. If analysis of the technical support ticket directs to possible service degradation or outage, the Outage Escalation Procedure will be followed, see below.
- Provisioning: Support questions about provisioning have to be entered in IBIS as a provisioning support ticket and always include the ICCID and/or the provisioning task ID. In case of a provisioning task failure the DP has to check the provisioning status message and in the event it is an error from the operator, a support request should be escalated directly to the satellite operator by the DP. If the provisioning order does not result in the targeted card status, the DP will open a support ticket and describe the actions taken. Digital Skies staff will advise about the solution and how to proceed. The DP is responsible for the provisioning itself and if urgent will process the provisioning order in Inmarsat's provisioning system. Acknowledgement of a provisioning support ticket will be processed same working day.
- Billing: support questions about billing functionality in IBIS should be entered as a billing support ticket and include the ICCID, subscription and/or price plan ID and customer account name/ID if it refers to a specific billing question. Billing support questions can also refer to questions about CDR mediation, health system monitors and other IBIS functions. Acknowledgement of a billing support ticket will be processed same working day. Each performed task in IBIS is logged for effective troubleshooting and auditability.

Once a case is resolved, the case is closed by Digital Skies Support. If required, the support team can be contacted for additional information, or a new support ticket can be created.

DP Technical Support Escalation Procedures



8. Network Service Availability

Service Availability is calculated from total outage, in minutes, in each calendar month divided by the total number of minutes in that month, as recorded at Digital Skies Network Operations

- Digital Skies has the objective of at least a 99.5% Service Availability when evaluated on a twelve (12) month rolling average.

The Service Availability will exclude planned outages and telecommunications infrastructure failure.

8.1. Network Service Notifications

Digital Skies will endeavour to meet the additional service metric targets set out below. The additional service metric targets shall not apply to any of the exceptional situations set out below.

This document serves as a guideline indicating internal objectives. Not meeting these internal objectives cannot be construed as a breach of contract.

8.2. Network Maintenance and Outage Notification and Updates

Planned Maintenance	Duration	Frequency and Criteria
Routine Maintenance	Up to 3 hours each period	Twice weekly during weekdays and low traffic period

Table 1: Planned Maintenance and Notification Policy

Type of Network Outage	Notification Notice Period	Notification Method
Planned outages	At least 3 Business Days prior notice	Email
Emergency outages	As much prior notice as practical, at the Company's sole discretion.	Email
Unplanned outages	No prior notice.	Email – within 30 minutes of verification of the event

Table 2: Network Outages and Notification Policy

During an unplanned network outage, Digital Skies will give a network outage status update at 2 hourly intervals until resolution.

Following an unplanned network outage, Digital Skies will strive to provide an outage report within 3 Business Days of the Service being restored.

8.3. Network Outage Escalation Procedure

8.3.1. Outage Escalation Procedure

Digital Skies defines an outage as any scheduled or unscheduled service degradation or loss that persists beyond 10 minutes that results in a complete loss of traffic through the network. In most cases Digital Skies will attempt to notify the DP one week prior to any scheduled outage, however our minimum notification period is 3 business days. Digital Skies communicates to the DP (via email alert) for any unscheduled outage within 15 minutes of verifying an outage. Below a detailed outage escalation procedure is described. Please also be referred to the "*Demarcation and Escalation Procedures DP SP aa Service.docx*", which contains more details on escalation procedures and demarcation of trouble shooting between the DP, Inmarsat and Digital Skies.

Digital Skies has established workflows to optimize the handling of DP support questions concerning network service degradation or outages. Digital Skies internal and external system tools are used to exchange information between departments and between Digital Skies and the DP.

Depending on the type of problem reported, Digital Skies Support will either request additional information from the DP or escalate the case to the appropriate department within Digital Skies in order to provide assistance until the case is resolved. Digital Skies support staff access the IBIS system to review and update cases

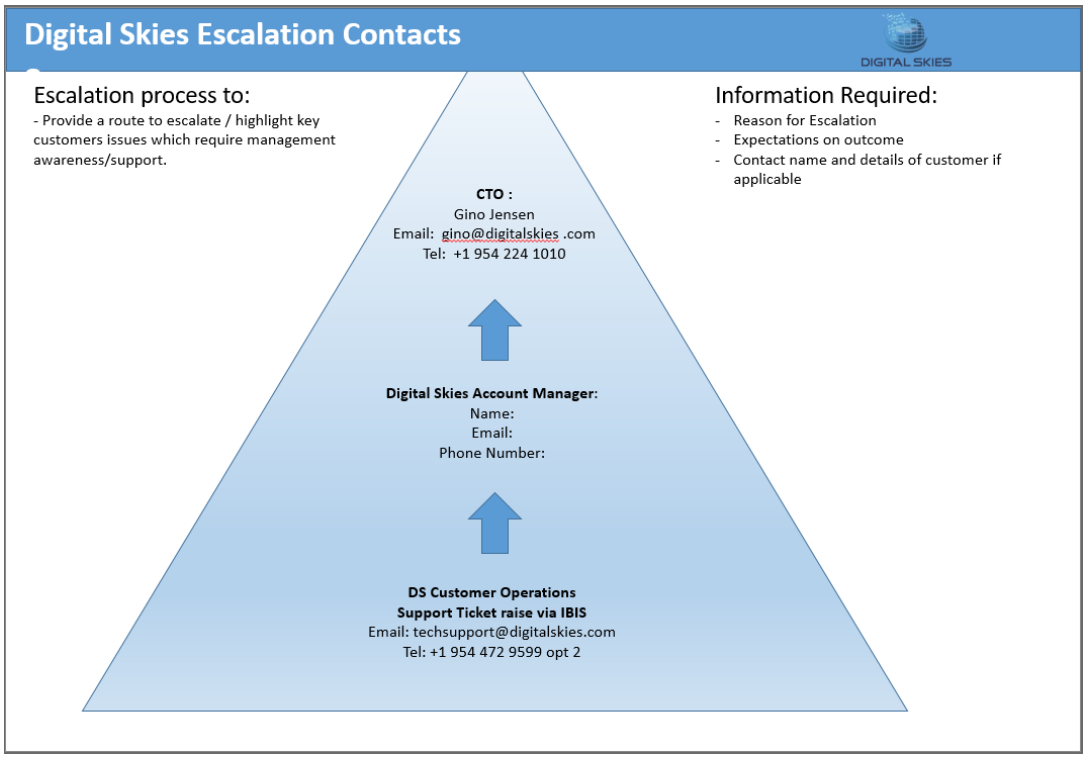
The Digital Skies Support Specialists use the following guidelines to determine which cases should be escalated to another department:

- Digital Skies First Tier Support examines and verifies details of the support request including the evidence provided by the DP that was gathered during the troubleshooting performed by the DP support team.
- Digital Skies First Tier Support analyses the incoming technical support ticket using internal tools to troubleshoot. Any verifiable outage that affects multiple terminals as defined, controlled or uncontrolled that persists beyond sixty (60) minutes must be immediately reported to Second Tier. The purpose for this action is to quickly allocate additional resources to the problem solving process. If Second Tier Support is not available or if additional assistance is required, or if the First Tier Support is unable to resolve the problem in four (4) hours, then the Technical Director shall be contacted.

Note that the times presented in the procedure below are worst-case. The appropriate experts may accelerate the procedure if it becomes obvious that a problem cannot be resolved without additional support.

.

8.3.2. Point of Contacts for Escalation that requires management awareness



8.3.3. Exceptions

The service levels set out above shall not apply in any of the following situations:

- Any planned maintenance event
- Any act or omission of the DP as a Service Customer resulting in an adverse effect on the Service
- Satellite Terminal failure
- PC equipment failure
- Fault or outage with an interconnect link from the agreed demarcation point to the DP as a Service Customer
- Regulatory or local government restrictions requiring an alteration or suspension in the provision of the Service
- Network availability throughout the internet;
- DP has not met the minimum reporting requirements

9. Change Control process and release management

Changes to the DPaaS portfolio can originate from various sources:

- DP can report bugs or request new features
- Inmarsat can introduce changes or enhancements to the DP service that may require new functionality
- Digital Skies generates ideas of new features in the software.

9.1. Prior to the release

- Releases for DPaaS will be on a regular basis.
- In any release, items requested by the customer as well as general maintenance items for DPaaS will be included where possible.
- DP requests or bug reports are submitted via support ticket template in IBIS. After acknowledgement of the request or bug report, the DP will be informed when the bug fix will be implemented and /or if the request for a new feature is considered an enhancement that will be taken into a future software release.
- For the billing and provisioning modules, it is not possible to do a partial release for one new functionality only: when a new version is released, the items that have been completed until that time will automatically be included.
- Digital Skies will announce an IBIS software release per service notification with specification of date and time frame. We reserve the right to do immediate releases if we deem this necessary (to be determined by Digital Skies), this could also be the result of a bug report.
- Release notes are available to view in the IBIS menu.

9.2. During the release

Digital Skies releases at the announced time, and once the release is live, the DP may do some quick tests (based on the release notes provided), while Digital Skies is on stand-by to support any issues.

9.3. Release documents

- Release notes in IBIS

10. Data protection

- All customer data will be protected in a layered addressing, routing, firewalling and tagging manner to ensure traffic separation.
- Firewall is in place to create VRF, VLAN tagging.
- Interconnection of private physical interconnect for last mile.
- IPSec VPN is configured to segregate each client communication separately.
- Digital Skies runs secure BGP.
- The lowest level of ciphering used is AES 128.
- Tertiary firewall feature is offered with the service, which is managed by the end user.
- Data in the IBIS database is not physically deleted, but just marked with an end-date. This way, mistakes can be recovered.
- IBIS maintains an audit trail of changes made to the most important data elements, so changes to this data can be audited.

11. Disaster Recovery Planning

This is the process to recover in the event of an interruption or failure, including people/vendors involved, key steps, etc.

- Executive management is notified on any system failure to ensure coverage or executive oversight in the restoration process.
- All mission critical systems carrying customer satellite data are deployed in a redundant manner where there is always a 1:1 hot stand-by ready to automatically assume the active role. All data is simultaneously written to both systems on configuration changes.

12. Definitions

- **"APN"** has the meaning of Access Point Name
- **"CDR"** has the meaning of Call Detail Record, provided by Inmarsat. There are two types of CDRs: 'daily CDRs' and 'near real-time CDRs'. IBIS processes both sets of CDRs.
- **"Digital Skies"** is the provider of the DPaaS platform.
- **"DP"** has the meaning of Inmarsat Distribution Partner.
- **"DP as a Service (DPaaS)"** is a platform that enables the DP to perform a combination of the following: Redundant InterConnect services (connecting Inmarsat infrastructure with various Digital Skies PoPs), PoP services, Online Firewall services, Provisioning services, Monitoring services and Reporting and Billing services. IBIS is the GUI to perform/manage/control those functions.
- **"IBIS"** is the GUI (Graphic User Interface) for the various type of services of DPaaS. Depending on the module, the DP has access to more or less functionalities in IBIS.
- **"GGSN"** has the meaning of GPRS Gateway Support Node
- **"Network Outage"** is defined as any scheduled or unscheduled service degradation or loss that persists beyond 10 minutes that results in a complete loss of traffic through the network.
- **"Online Firewall"** The main purpose of a firewall is to separate a secure area from a less secure area and to control communications between the two. The firewall is responsible for controlling inbound and outbound communications on anything, from a single machine to an entire network. IBIS is the user interface that enables the DP (or the customer of the DP) to create its own packet filter firewall settings.
- **"PoP"** On the Internet, a PoP (point-of-presence) is an access point from one place to the rest of the Internet. A PoP typically houses servers, routers, network switches, multiplexers, and other network interface equipment, and is typically located in a data center. Digital Skies manages three PoPs (located in Houston, TX, USA, London, UK and Sydney, AUS).
- **"RADIUS"** has the meaning of Remote Authentication Dial In User Service
- **"Value Added Services (VAS)"** has the meaning of additional services that are not part of the default product offering. The Value Added Services are charged separately.
- **"Working hours"** are defined as hours that Digital Skies staff is available from 8am to 5pm in the following three regions: Singapore, UK and EST (USA).