GleSYS

Stockholm 2023-10-25

INCIDENT REPORT REGARDING CONNECTIVITY OUTAGE IN LONDON

This document contains the background and remediation actions regarding network outage in London

GleSYS AB
Box 134, 311 22 Falkenberg
Sweden

Phone. +46 (0) 346 738800
Mail: info@glesys.se
Web https://glesys.com

Org.nr. 556647-9241
VAT No. SE556647924101
BIC NDEASESS
IBAN 300000003052170377

BACKGROUND

The GleSYS network assets in London are connected to our backbone with two diverse paths traversing the English Channel. The first of these paths are located between Zandvoort, Netherlands and Lowestoft, Great Britain and the second path goes from Folkestone, Great Britain to Coquelles, France.

Our backbone network is designed to handle a single fault, meaning that every router is connected to two other routers over physically diverse circuits.

RFO

We suffered two simultaneous outages on both our links connecting London to our network taking the site offline. An extended window of vulnerability was caused by an outage on the wet path between Zandvoort and Lowestoft which required a complex repair process involving a cable ship which in turn was prolonged by bad weather. This operation has yet to be completed.

SEQUENCE OF EVENTS (CEST)

Please note that the timeline is when the events were communicated to us
by our provider as we were not actively involved in solving this incident.
Entries marked with (G) were performed by GleSYS staff.

2023-10-16 21:19
Our provider informs us of a major disturbance due to a suspected fiber cut between Zandvoort and Lowestoft.

2023-10-16 23:45
Field teams to the site for further investigations

2023-10-17 03:22
Field team arrives in Lowestoft and begin fiber measurements

2023-10-17 05:33
Field team has completed measurements in Lowestoft and awaits field team in Zandvoort to arrive on-site

2023-10-17 06:46

Field team arrives on-site in Zandvoort to perform fiber measurements

2023-10-17 08:06
Provider NOC receives test results and begin analyzing them

2023-10-17 09:46
A whole cut of the cable is confirmed, all pairs in the cable are affected by the event.

2023-10-17 12:37
The fault has been isolated as a cut on the submarine cable approximately 121 kM from Zandvoort towards Lowestoft. Marine repair contractor has been engaged to mobilize the repair vessel.

2023-10-17 21:04
Repair vessel mobilization confirmed, it proceeds to load necessary supplies before departing to the fault location. Tentative restoration time set to 2023-10-24.

2023-10-18 13:28
Loading of the repair vessel continued during the morning and is expected to depart to the fault location within 24 hours

2023-10-18 23:22
Loading of repair vessel completed, departure due within the coming hours

2023-10-19 14:11
Departure was delayed due to stormy weather in the UK in the last 24 hours, conditions were deemed unsafe.. Repair vessel remains on standby awaiting suitable weather conditions for departure. Estimated completion date is updated to 2023-10-25.

2023-10-19 20:32
The marine repair contractor confirms that the repair vessel has departed from port earlier today and is now in transit to the fault location and is expected to reach the fault location in the late morning of 2023-10-20.

2023-10-20 14:37
The marine repair contractor confirms that the repair vessel is due to arrive at the fault location shortly and once there will monitor the weather conditions closely for a suitable window to commence the repair operations.
The current weather forecast is expecting stormy conditions for the next few days and the repair vessel expects to begin operations in the early hours of 2023-10-22.

2023-10-22 11:57
Weather conditions overnight were unsafe to proceed with repair operations. Repair vessel confirmed that weather conditions have improved and are preparing to commence repair operations.

2023-10-23 20:09
The marine repair contractor confirms that the UK side of the fault has been successfully recovered and buoyed off. The repair vessel has commenced operations to receive the NL end of the cable.

2023-10-24 06:29(G)
Our on-call engineer receives an alarm stating that London Core router is unreachable, this is then escalated to on-call network engineer. The on-call network engineer informs the Head of Network and then proceeds to engage our connectivity provider.

2023-10-24 06:50
Our provider notified us of a major outage in Duesseldorf, Germany. At this time we have lost both of our paths to London.

2023-10-24 08:30
Provider's field team is dispatched to conduct on-site investigations in Duesseldorf

2023-10-24 10:03(G)
GleSYS Head of Network engages provider account management for the feasibility of installing a third path between mainland Europe and the UK.

2023-10-24 10:07
Provider notifies us about expected equipment failure and that ordering of spare parts is in progress.

2023-10-24 12:35
The marine contractor confirms that the initial splicing operations on the NL end of the cable are ongoing and expected to be completed within the next 24 hours. Following successful testing the repair vessel will proceed to initiate splicing operations on the UK Side.

2023-10-24 12:59
Spare parts order confirmed, field team is expected to collect at 2024-10-24 16:15

2023-10-24 16:55
Spare parts have been collected by the field team who are en-route to the fault location, expected to arrive at 18:00.

2023-10-24 18:25(G)
Service is confirmed up again, Services in London is once again reachable

2023-10-24 18:37
Engineer has arrived at the fault location, troubleshooting has started

2023-10-24 18:55
Provider confirms that the issue was rectified by part replacement.

CONCLUSIONS SO FAR

Cable cuts are part of our every day and we have designed for them to not cause any issues. A regular cable-fault on land is usually restored within 12-24 hours but sea cables are a wholly different matter where restore times are measured in weeks instead of hours.

We have used this incident as a jumping off point to re-evaluate our risk appetite for sub-sea connectivity. We have concluded that while two diverse paths are plenty for terrestrial routes, it might not be the case for sub-sea routes. We are actively working with our providers to investigate the possibilities of adding more diverse paths across the sub-sea portions of our backbone network.

Sincerely,

Eric Lindsjö
Head of Network
GleSYS

GleSYS AB
Box 134, 311 22 Falkenberg
Sweden

Phone. +46 (0) 346 738800
Mail: info@glesys.se
Web https://glesys.com

Org.nr. 556647-9241
VAT No. SE556647924101
BIC NDEASESS
IBAN 300000003052170377