

Incident Report

DATACENTER CONNECTIVITY LOSS

Customer – External



| Datacenter connectivity loss | |
|---------------------------------------|---|
| Applicable customers | All customers in datacenter AZ1, AZ2, AZ3, ODN (AZ = Availability Zone) |
| Start date and time of incident | 01.11.2021 16:50:09 |
| End date and time of incident | 02.11.2021 05:02:11 |
| Related incident or problem nr. | Multiple Incident numbers. |
| Disruption description/impact | <p>Customers and datacenter AZ2 and ODN had loss of connectivity.</p> <p>Customers in AZ3 had for the most customers full connectivity.</p> <p>Customers that use DNS located at ODN DC had problems with resolving names.</p> |
| Root Cause | <p>Major fibre cut (line of sight) at Sentia’s supplier Global Connect between Kolding and Odense.</p> <p>Sentia has from Kolding datacenter (AZ3) towards Ballerup datacenter (AZ2) and Taastrup datacenter (AZ1) redundant connectivity, which means AZ3 is connected with 2 x 100G towards AZ2 and 2 x 100G towards AZ1. Each direction (AZ3 to AZ2 and AZ3 to AZ1) is independent of each other and full operational service can be performed if just 1 out of 4 links is operational. AZ 1 + AZ2 + AZ3 forms a redundant network ring structure.</p> <p>Sentia’s supplier should have delivered all 4 paths with full diversity as ordered from Sentia. This incident proves that is not the case. Sentia will investigate this.</p> <p>See in addition the section “Preventive measures” below.</p> |
| Total accumulated production downtime | <p>Full down time: 9,55 hours</p> <p>For most customers the actual down time was: 2,25 hours</p> |
| Actions to fix | <p>Global connect repaired fibre cut.</p> <p>Sentia established Workarounds where possible</p> |

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| Preventive measures | <ul style="list-style-type: none"> • Sentia will, in dialogue the supplier, ensure that full diversity in fibre paths, as Sentia has bought, will be implemented and more redundancy where it is feasible will be added. • Including the secondary lines must have at alternate paths. • Review inter-AZ connectivity and ensure physical redundant paths. • Improve the internal redundancy with extra DNSs servers in each AZ • and analyse other ways of improving redundancy when losing data connections. <p>There are further follow-up meetings with the supplier this week and a full report describing the preventive measures will be made available to customers.</p> |
| Affected CI's | dkaz1-cp001-bdr-01, dkaz2-cp001-bdr-01, dkaz3-cp001-bdr-01 |
| Communication | During the Incident at least each hour status was communicated to customers at https://sentia.com/dk/driftsstatus/ |

Timeline of events

| Time | Description |
|-------------------------|---|
| 2021-11-01 16:50 CET | All four links from AZ3 to AZ2 and AZ1 go down. Two links between AZ3 and ODN go down. |
| 2021-11-01 16:52 CET | On call duty starts investigating problem. |
| 2021-11-01 16:54 CET | Colleagues are brought in for troubleshooting. |
| 2021-11-01 16:56 CET | Call to ISP Global Connect to report the problem. Mail to GC NOC, case id CS0610083 |
| 2021-11-01 17:05 CET | Troubleshoot and investigating several scenarios to bring connectivity back. |
| 2021-11-01 17:42 CET | Decision made to isolate AZ3 datacenter to reduce impact for customers. |
| 2021-11-01 19:15 CET | This workaround fully implemented. |
| 2021-11-01 23:54 CET | Decision to move virtual DNS from Odense to Kolding initiated and action taken. |
| 2021-11-02 02:29 CET | One link to ODN comes up and one crosslinks from AZ3 to AZ1 and AZ2 comes back up |
| 2021-11-02 04:12 CET | Redundant link to ODN comes up as well as the two last redundancy links from AZ3 to AZ1 and AZ2 |
| 2021-11-02 05:02 CET | Rollback of workaround implementation done and verified |
| 2021-11-02 05:15 CET | https://sentia.com/dk/driftsstatus/ is updated with the information that all services are back to normal. |