Preliminary Post Incident Report
For
Microsoft 365

Report Date: July 19, 2022

Report By: ICC

Incident Information

Important Note	This is a preliminary Post Incident Report (PIR) that is being delivered to provide early insight into details of the issue. The information in this PIR is preliminary and subject to change. A final PIR will be provided within five (5) business days from full event resolution and will supersede this document upon publication.
Incident ID	MO400684
Incident Title	Some users may have been unable to connect to Microsoft 365 services
Service(s) Impacted	Multiple Microsoft 365 services

User Impact

Users may have been unable to connect to Microsoft 365 services in India.

Scope of Impact

This may have affected any user in Southern India trying to connect to Microsoft 365 services if they used a specific ISP provider.

Incident Start Date and Time

Friday, July 15, 2022, at 11:05 AM UTC

Incident End Date and Time

Friday, July 15, 2022, at 11:50 AM UTC

Root Cause

To optimize performance and reduce service latency, Microsoft has adopted an Edge computing architecture with localized Data Centers (Edge sites). Furthermore, some of these Edge sites are owned and managed by local ISP third-party partners. By design, a user's connection will be routed by their Internet Service Provider (ISP) to their local Edge site, where it is then is passed to high speed fiber data center links (pathways) into the Microsoft network. Within our network, user connection requests are then distributed amongst processing components governed by the services and features the user is attempting to connect to.

Microsoft has multiple Edge sites in Chennai (South India), managed by different local ISP third-party partners. Each Edge site has several connection pathways to Microsoft's Data Centers throughout India and into the wider Microsoft network. In line with the aforementioned statement regarding the architecture, the affected Edge site in Chennai is managed by a local ISP third-party partner within the region.

Impact occurred when the local ISP third-party partner experienced a physical fiber networking event on the devices which manage the connection pathways from their Chennai Edge site to Microsoft's Data Centers. This resulted in this specific Chennai Edge site becoming isolated from the wider Microsoft network, and caused impact to any user request which had been routed to this specific ISPs Chennai Edge site, as the request could not be passed into the wider Microsoft network.

Actions Taken (All times UTC)

<u>Friday, July 15</u>

11:05 AM – Telemetry indicated that this is when impact started.

11:20 AM – We started to receive customer reports of impact for multiple Microsoft 365 services, with the majority of reports for Microsoft Teams. We started to review the support case details and diagnostic data.

11:35 AM – System telemetry targeted on core features within Microsoft Teams did not suggest any issue within the service. We believed that the issue was occurring within the network layer prior to the requests reaching the Microsoft Teams service.

11:38 AM – We analyzed network telemetry from components within the India region.

11:48 AM – We published MO400684 on the Service Health Dashboard (SHD).

11:53 AM – We reviewed specific routing paths between data centers and Edge sites within the India region, as we suspected there may have been a fiber cut event.

12:00 PM – We identified that impact was isolated to a specific Chennai Edge site, and that multiple networking links from this Chennai Edge site to other local data centers had experienced a network event at the same time, which isolated the Edge site from the Microsoft network and caused impact.

12:04 PM – Telemetry indicated that the service started to recover at 11:40 AM UTC and had fully recovered at 11:50 AM UTC. We contacted our local ISP third-party partner who manage the Edge site to assist with our investigations.

12:27 PM – We continued to work with the third-party to investigate the issue.

1:00 PM – Monitoring telemetry indicated the service had remained stable. We continued to work with the local third-party to understand the root cause for the Edge site isolation.

1:40 PM – After a period of extended monitoring, we closed the SHD communication. We continued to troubleshoot the underlying issue with the local third-party.

Next Steps

Findings	Action	Completion Date
Impact occurred when the local ISP third-party partner experienced a physical fiber networking event on the devices which manage the connection pathways from their Chennai Edge site to Microsoft's Data Centers. This resulted in this specific Chennai Edge site becoming isolated from the wider Microsoft network, and caused impact to any user request which had been routed to this specific ISPs Chennai Edge site, as the request could not be passed into the wider Microsoft network.	We're working with the third-party partner to build better resiliencies against this type of fiber event to stop this issue reoccurring.	In Progress
	We're investigating our existing automated failover process to confirm that the logic, which quickly fails over public internet traffic to alternate Edge sites when a specific Edge site becomes isolated, worked as expected.	In Progress
	We're reviewing options to optimize Edge site failovers to reduce potential impact times.	In Progress