

Kathmandu University Internet [**Dhulikhel Premise**] & Website [**https://ku.edu.np**] Service Outage Report

Website of School of Science, School of Engineering and School of Law are serviced within the same Web Infrastructure Management System of KU Website

[19.07.2021]

Prepared by: ISMS

INTERNET DETAILS

S. No.	Particulars	Details
1	Service Provider	Worldlink Communications Limited
2	Service Since	October 2017 (Upgraded to 150Mbps in March 2020)
3	Bandwidth	150 Mbps Overseas Symmetric (Intl) 600 Mbps National Symmetric (Local)
4	Utilization Time	24 Hours
5	Service Locations	Central Campus Dhulikhel Premises, School of Law
6	Internet Users	Office Building, Staff/Faculty Residence, Student Hostels, Guests & Visitors

BANDWIDTH CONSUMPTION RATES

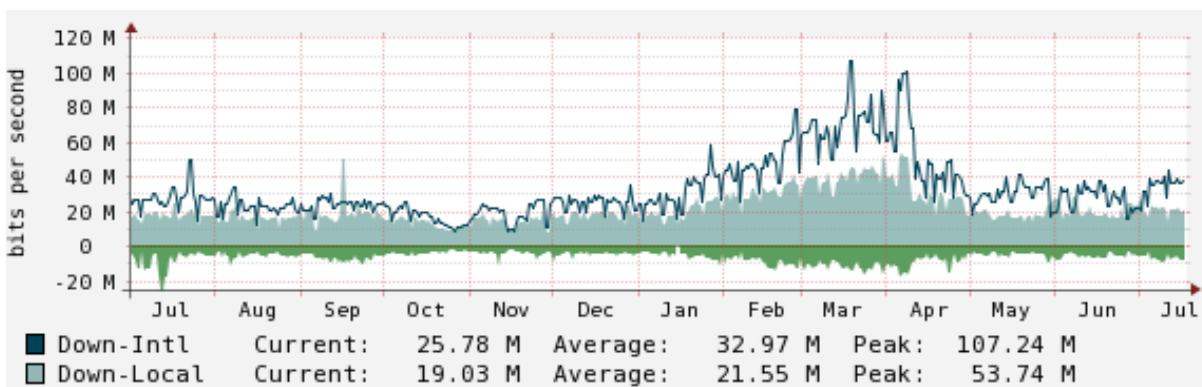


Fig: Annual Average Internet Bandwidth Consumption (1 day Avg) from 18.07.2020 to 19.07.2021

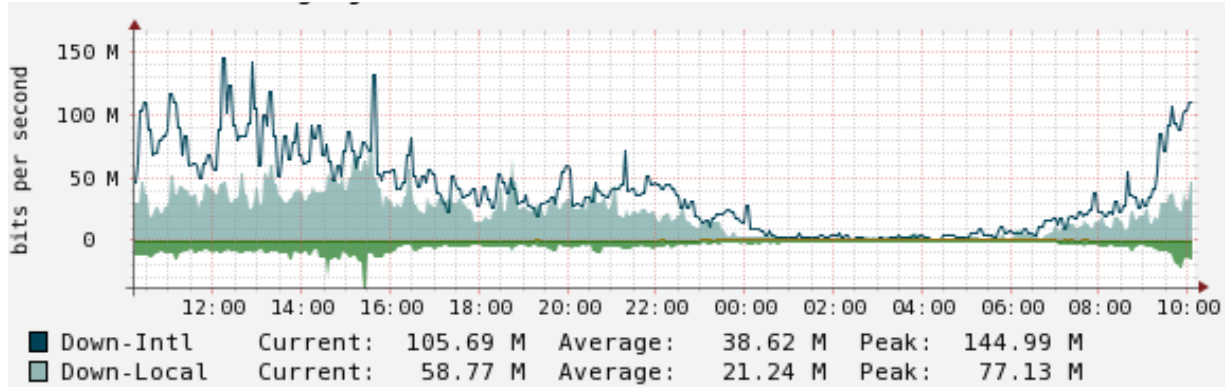


Fig: Daily/Current Average Internet Bandwidth Consumption (5 Min Avg) from 18.07.2021 10:00 to 19.07.2021 10:00

INTERNET SERVICE OUTAGES

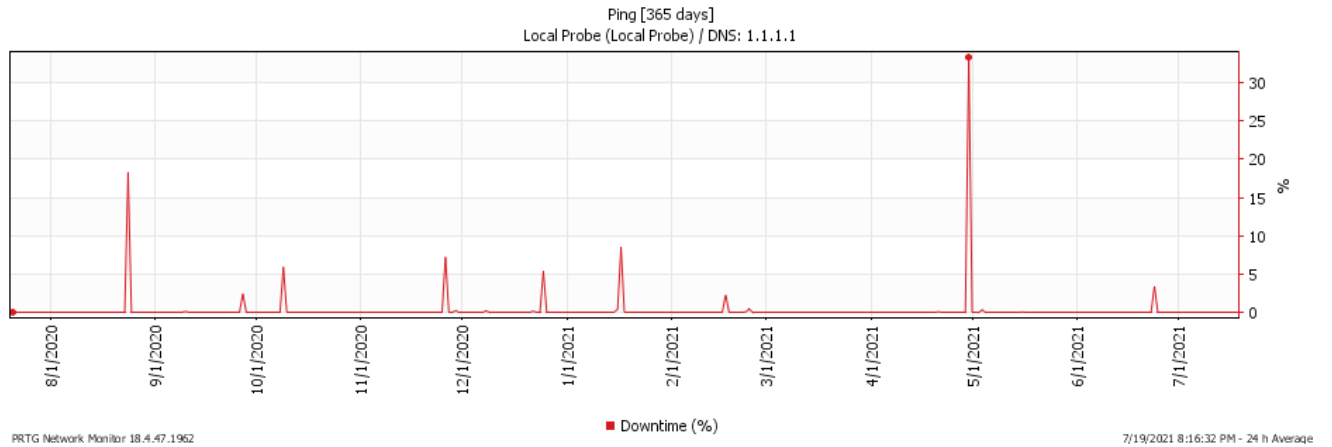


Fig: Internet Monitor Probe - Internet Outage Summary of 365 Days from 18.07.2020 to 19.07.2021

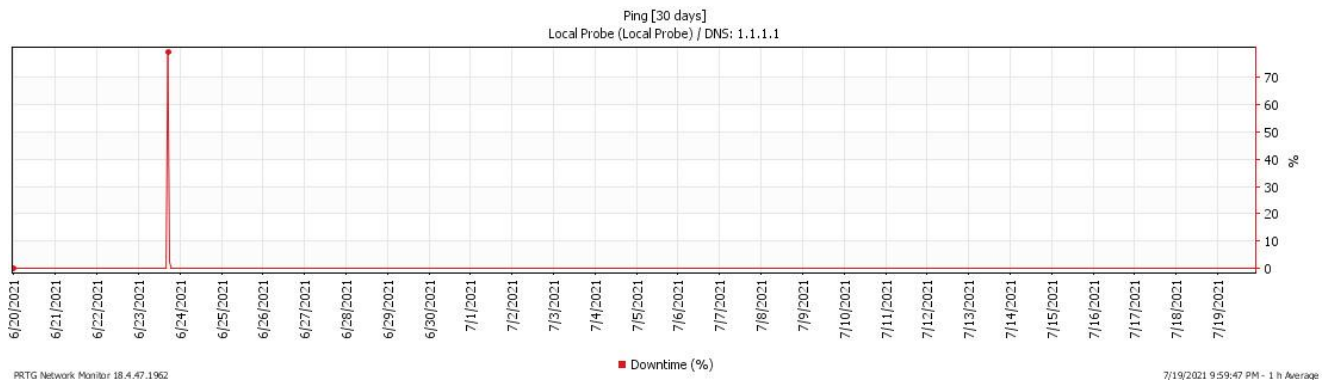


Fig: Internet Monitor Probe - Internet Outage Summary of 30 Days from 18.06.2021 to 19.07.2021

Internet Service Outage Log of last 1 Year from 18.07.2020 to 19.07.2021

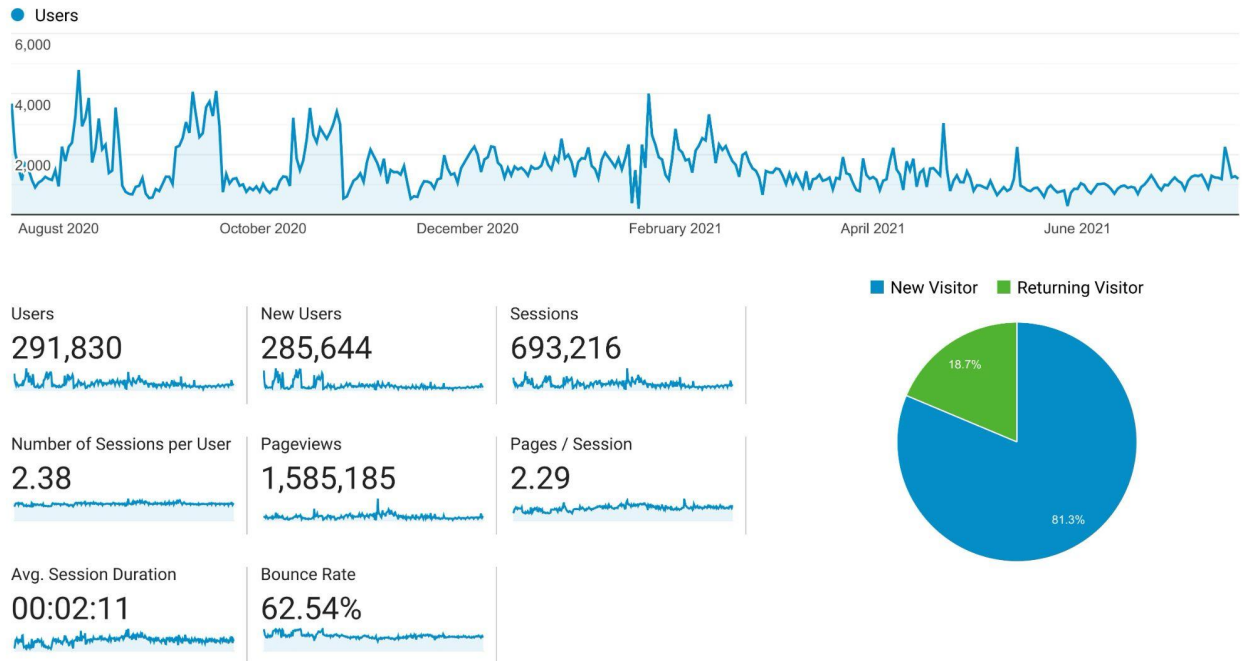
S.No.	Date	Start Time	End Time	Duration	Remarks
1	23.06.2021	16:03	16:47	43 Minutes	ISP Acknowledged; Internet Connectivity down all over Nepal
2	29.04.2021	00:29	08:21	7 Hours 52 Minutes	ISMS Server Room MCB Fuse Blown; Fuse Reset
3	16.02.2021	18:00	18:32	32 Minutes	No description recorded
4	16.01.2021	10:24	10:40	16 Minutes	ISP Acknowledged; Shifting Work at Banepa Branch
5	15.01.2021	23:54	01:43	1 Hour 49 Minutes	ISP Acknowledged; Shifting Work at Banepa Branch
6	24.12.2020	07:20	08:38	1 Hour 18 Minutes	No description recorded
7	25.11.2020	17:27	19:11	1 Hour 44 Minutes	ISP Primary Link Down; Switched to Secondary Link
8	08.10.2020	05:21	06:44	1 Hour 23 Minutes	ISP Acknowledged; Maintenance Work in Banepa Network
9	23.08.2020	12:17	14:48	2 Hours 31 Minutes	Power Outage in ISMS Building

WEBSITE DETAILS

S. No.	Particulars	Details
1	System Name	Web Infrastructure Management System (Designed and Managed by ISMS)
2	Service Since	June 2019
3	Total number of current websites	19
4	Total websites deployed	16
5	Enrolled Schools	4 (3 deployed)
6	Enrolled Departments	13 (12 deployed)
7	Other Units/Centers/sites	2 (including ku.edu.np)
8	Websites under development	3 out of 19

Note: Websites KU Homepage (ku.edu.np), KUSoE (soe.ku.edu.np), KUSoS (sos.ku.edu.np), KUSoL (sol.ku.edu.np) and all related departments including DoMIC (mic.ku.edu.np) are all deployed under same Web CMS (web.ku.edu.np) and thus service outage report for this website should represent for all mentioned websites.

WEBSITE VISITOR RATES



*Fig: Annual Average KU Homepage Website visitors (1 day Avg) from 18.07.2020 to 19.07.2021
(Bounce rate=Percentage of single-page sessions/views in which there was no interaction/clicks)*

WEBSITE SERVICE OUTAGES

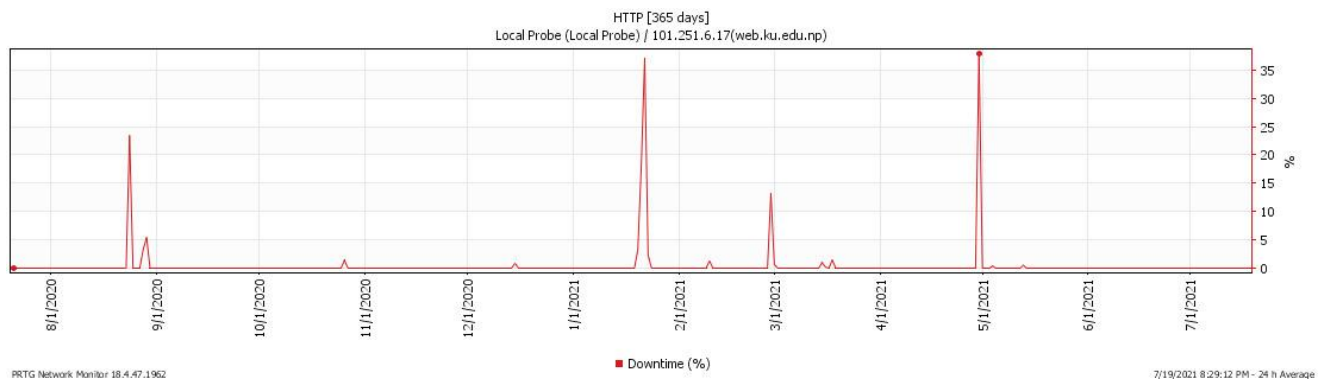


Fig: Website Monitor Probe - Website Outage Summary of 365 Days from 18.07.2020 to 19.07.2021

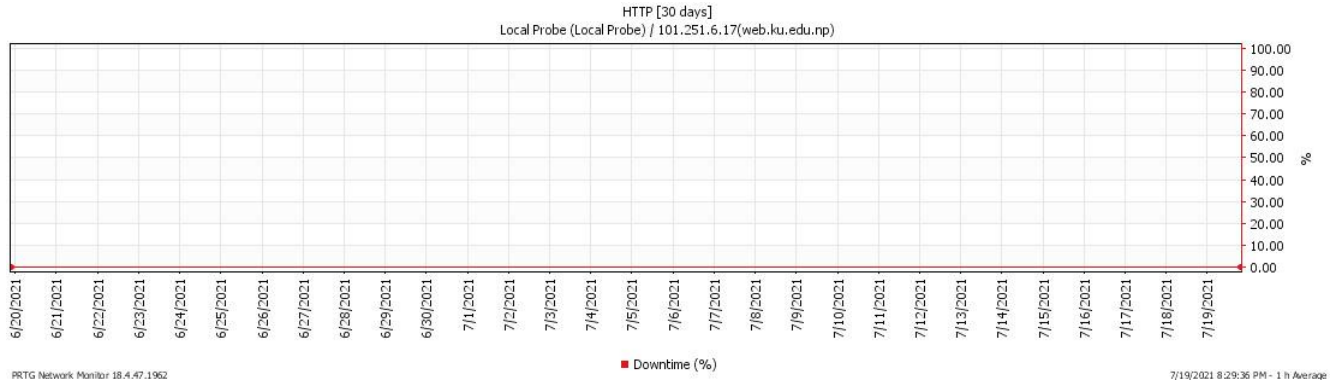


Fig: Website Monitor Probe - Website Outage Summary of 30 Days from 18.06.2021 to 19.07.2021

Website Service Outage Log of last 1 Year from 18.07.2020 to 19.07.2021

S.No.	Date	Start Time	End Time	Duration	Remarks
1	03.05.2021	15:51	16:03	12 Minutes	Maintenance; Servers powered down to switch to primary power source
2	29.04.2021	00:29	08:21	7 Hours 52 Minutes	ISMS Server Room MCB Fuse Blown; Fuse Reset
3	17.03.2021	17:17	17:39	22 Minutes	Maintenance to resolve fault in System; Reason Identified; Xenserver Host OS Version Upgraded
4	27.02.2021	12:12	14:33	2 Hours 21 Minutes	Fault in System; System Unresponsive; Reason Unidentified
5	09.02.2021	18:07	18:22	15 Minutes	Maintenance; Servers powered down to switch to secondary power source
6	22.01.2021	01:15	01:48	33 Minutes	Fault in System; System Unresponsive; Reason Unidentified
7	21.01.2021	21:49	22:02	13 Minutes	Fault in System; System Unresponsive; Reason Unidentified
8	19.01.2021	09:02	09:14	12 Minutes	Fault in System; System Unresponsive; Reason Unidentified
9	25.10.2020	09:32	09:53	21 Minutes	HTTPS/SSL Certificate Expired; Certificate renewed manually
10	28.08.2020	14:07	15:05	57 Minutes	Database Overloaded; CPU Utilization 100%; Web engine optimized
11	23.08.2020	12:17	14:48	2 Hours 31 Minutes	Power Outage in ISMS Building

CONCLUSION

The outage reports for Internet and Website Services presented here are based on the monitoring probes placed within the university premises and manual incident records logged. For internal users (office and residence inside KU Dhulikhel premises), the presented data are applicable as set forth. For the external users (viewers outside the campus), outage in internet connectivity also adds up to the outage in website services because although web servers are performing and reachable within campus, they are unreachable from the internet.

In the last 1 year, the Internet service has been down for a total of approximately **18 hours 7 minutes** and the website service has been down for a total of approximately **15 hours 49 minutes**. The internet outage is **0.20%** of total service time with agreed 97% uptime and all incidents besides internal issues are within the fault resolution of maximum 4 hours as per the service agreement with ISP. The website outage is **0.18%** of total service time. A considerable amount of website service outage was caused by an unidentified system fault that occurred randomly as well as during large visitors to the web. The underlying cause was later identified as major issues within the core of System Operating System and was fixed with latest upgrades.

A significant duration of the outages in Internet and Website Services were also caused by Power failures or faults in mains lines. The installation of the current solar hybrid power backup system was completed on 20.02.2021 with approximately 10 hours of battery backup for the full load during the time of installation. Before that the power battery backup was only around 15 minutes. With the new backup system in place, besides the faults in mains and planned maintenance, no internet or website service outages occurred due to power backup issues.

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