

- e. The corresponding expected maximum annual outages are:

1) Overall:	220 hrs
2) Local Subnetwork Traversal Only	190 hrs
3) Wide Area Subnetwork Traversal	300 hrs

END SYSTEMS NOT INCLUDED

The annual outage is the outage experienced by an individual user where the user is a person or process requiring access across the internetwork. All users of SIGNET will experience on average annual outages as per the above list. The analysis does not investigate the expected number of affected persons or processes given a particular failure in the network.

- f. The Internetwork Service availability objective is established using estimates for device and underlying service availability and objectives for Mean Time To Repair. Detailed data is contained in Appendix 2. For the purpose of the objectives presented above, the availability table under Sparing Consideration in Appendix 2 is used.
- g. The overall availability and outage are based on a 70 / 30 weighted average for the local / wide area internetwork service access by a user. The ratio is chosen to allow for a portion of the user's activity to be dependent upon the real time availability of the wide area subnetwork.

4.2 Availability Analysis

- a. Availability is defined as the ratio of the time the SIGNET Internetwork Service is operational, as viewed from the end user, to the total elapsed time and is given by:

$$\text{Availability} = \frac{\text{MTTF}}{\text{MTBF}}$$

and

$$\text{MTBF} = \text{MTTF} + \text{MTTR}$$

where

MTTF = Mean Time To Failure

MTTR = Mean Time To Repair

MTBF = Mean Time Between Failures

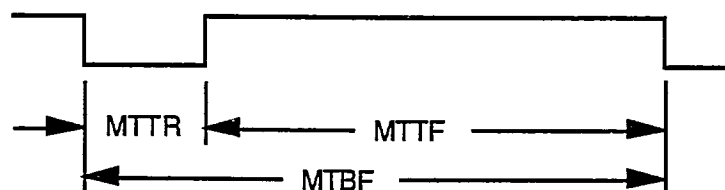


Figure 4.1: Availability Mean Cycle