Figure 8-2 is a sample ETS configuration for the STP.
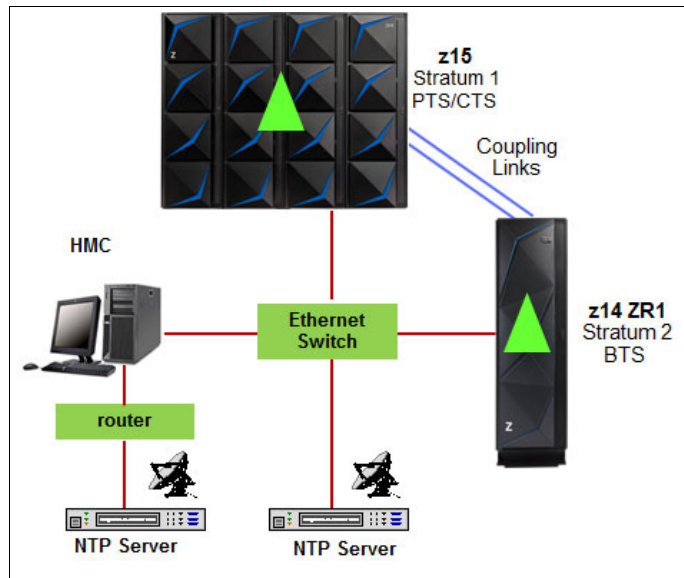

Figure 8-2   Example configuration: NTP server on the HMC

Especially for the financial markets, very tight time accuracy is demanded by the authorities of various countries. So the US Financial Industry Regulatory Authority (FINRA) has announced that computer clocks that are used to record events in national market system (NMS) securities and over-the-counter (OTC) equity securities must be synchronized to within a 50 millisecond drift tolerance of the National Institute of Standards and Technology (NIST) atomic clock. Also the European Union demands in their MIFID II (Markets in Financial Instruments Directive) regulation the maximum divergence from UTC is to be 100 microseconds.

Unfortunately the accuracy of the interface with an NTP server to maintain Coordinated Server Time accuracy provided by STP is 100 milliseconds to the time provided by the NTP server. In order to meet the clock synchronization requirements of FINRA and MIFID II, the NTP server must have a pulse per second (PPS) output signal that can achieve time accuracy within 10 microseconds. If your configuration requires the NTP server with pulse per second capability, the NTP server configured as the ETS must be attached directly to the SE network, while the Pulse Per Second cable must be attached directly to the PPS port on the CPCs playing PTS/BTS roles.

This is discussed in detail in the Techdoc "STP and FINRA clock synchronisation requirements".

8.4 Configuring the HMC as an NTP server

This section describes how to set up the HMC as an NTP server to be used as ETS for your CTN. The HMC can synchronize its time to an NTP server that is connected to the corporate network or available from the NTP pool on the internet.

The NTP server capability on the HMC addresses the potential security concerns that might arise if attaching an external/Internet NTP server directly to the HMC/SE network. However, when you use the NTP server on the HMC as ETS for your CTN, no pulse-per-second capability is available.