

APPLICATION NOTE - 3

Feature: Network Clock Synchronization

Application:

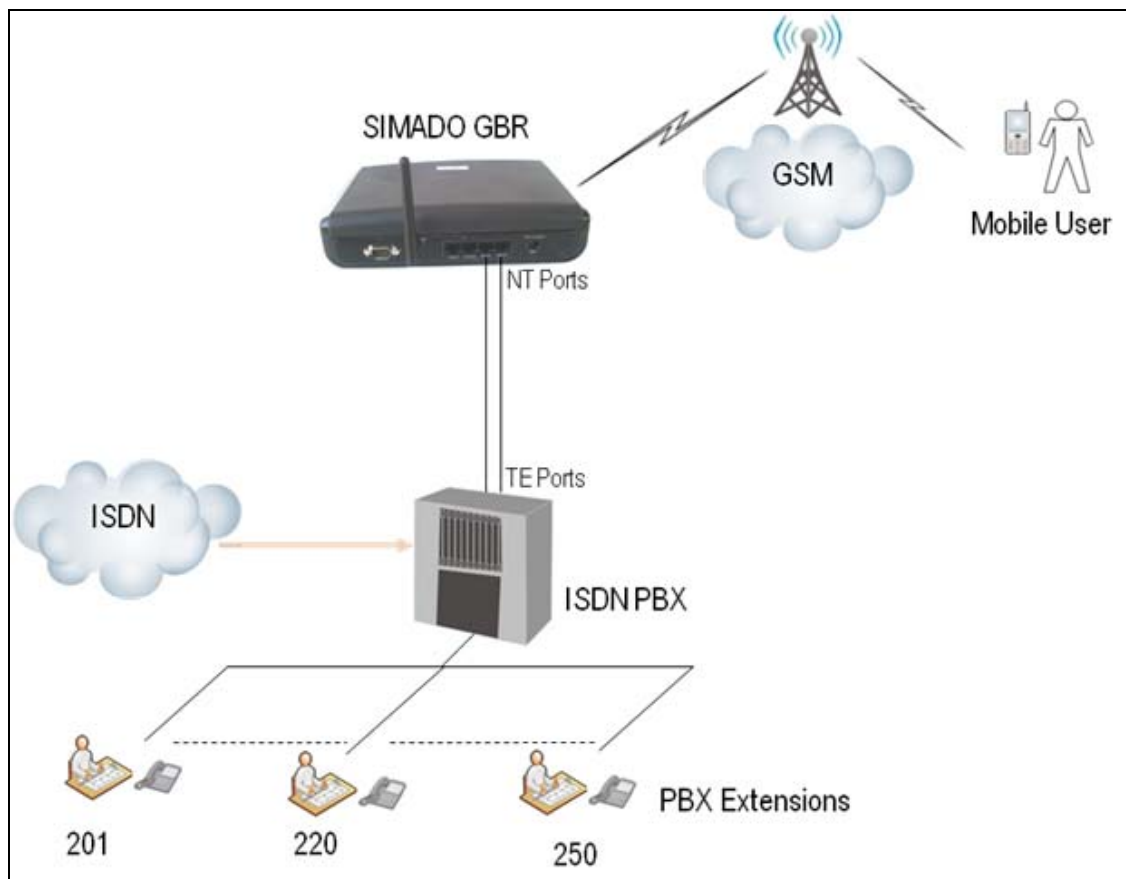
Matrix SIMADO GBR is a gateway to interface GSM and ISDN BRI networks. Existing ISDN PBXs can be interfaced with SIMADO GBR to avail GSM connectivity.

Feature Requirement:

It is necessary for any system to have a stable clocking mechanism for its proper functioning. In cases when two systems are interfaced together, the clock source of the two systems is required not only to be stable but also synchronized. If not, there will be interoperability issues leading to improper functioning.

Problem Case:

In usual scenario an ISDN network line terminates to a PBX. The PBX ISDN line terminates to the BRI port of SIMADO GBR. The two systems operate following their own internal/external clock source. This leaves no way to synchronize the clock between the two systems. Even if initially set accurately, it is natural for clock slip to occur between the clocks of any such system interfaces.



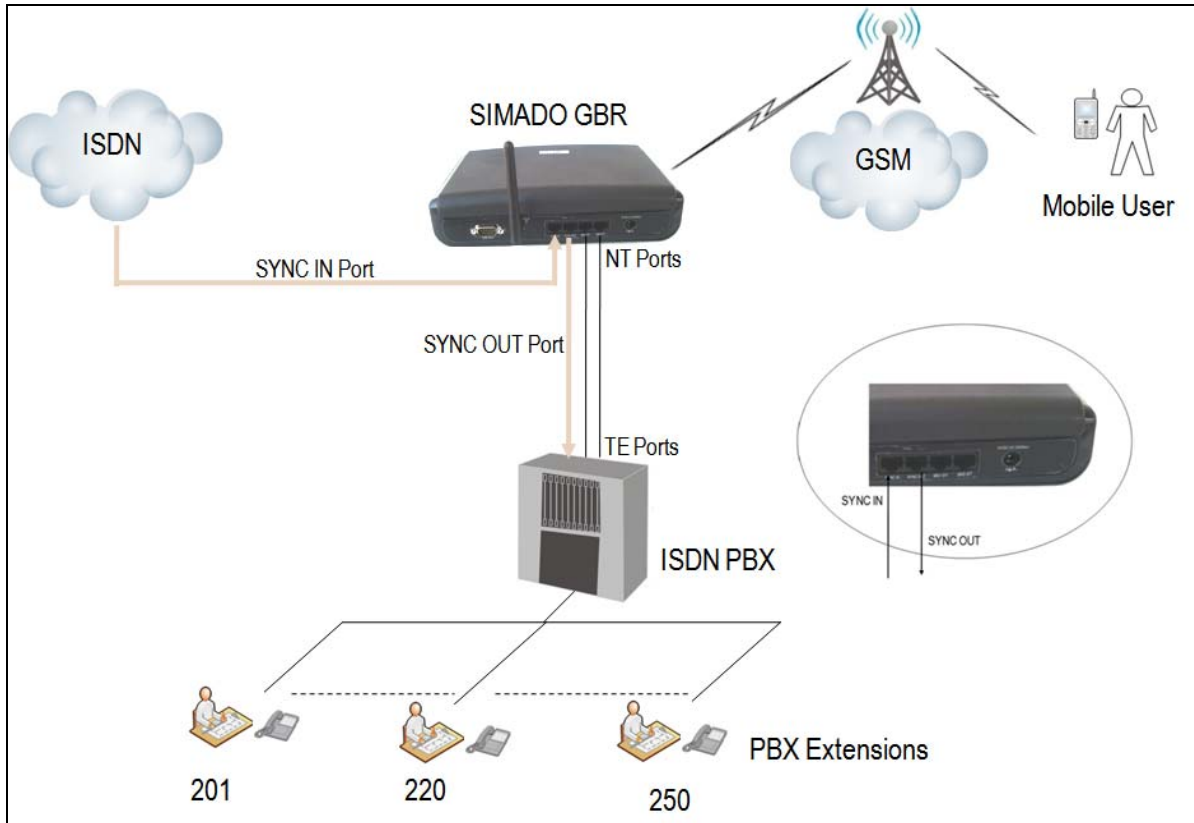
There are several problems that occur as a repercussion of such clock slips. For any calls now placed using the interface line, a caller may experience:

- Poor Voice Quality
- Noise Generation
- Non-functioning of the Link

Solution:

Traditional ISDN networks provide extremely accurate clock signals. Clock derived from the ISDN network can serve as a highly stable clock source. Further, the SYNC IN and SYNC OUT port of SIMADO GBR serve the purpose of Clock Synchronization between the two systems.

Implementation:



The BRI line from the network is terminated to the SYNC IN port of GBR. The same line emerges out of the SYNC OUT port and then terminates to the PBX, instead of terminating directly to the PBX. Such an arrangement provides for the required clock synchronization between the two systems. So, the two systems can now share a common and stable clock source.

Benefits:

- Both-The PBX and Gateway equipment can share common clock source
- No Interoperability Issues
- No Clock Slips = No Dropped Calls
- Better Voice Quality
- Utilization of Highly Stable Network Clock

Target Customers:

- Existing ISDN PBX Users

Release	February 17 th , 2010
Product Name	SIMADO GBR
Hardware/Software Release	V1R5/V2R1