

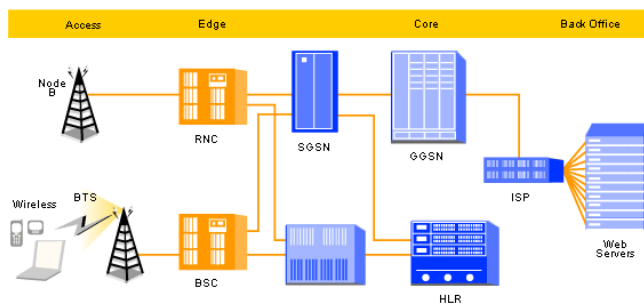
Application: 3G W-CDMA Radio Network Controller (RNC)
Pericom Device: PI7C7300A: Three-Port, 32-bit/66MHz PCI-to-PCI Bridge

Overview

The race to provide Internet data services to wireless subscribers is heating up. Applications such as high-speed Internet browsing, custom wireless Internet portals, and mobile virtual private networks are necessary in today's environment.

In GSM they are called Base Station Controllers (BSC). In 3G W-CDMA networks they are known as Radio network Controllers (RNC). The RNC is responsible for call set-up and tear-down, voice and data traffic processing, as well as call hand-off.

Today's wireless networks support both 2G and 3G equipment. The diagram below provides more details.



Pericom Solution

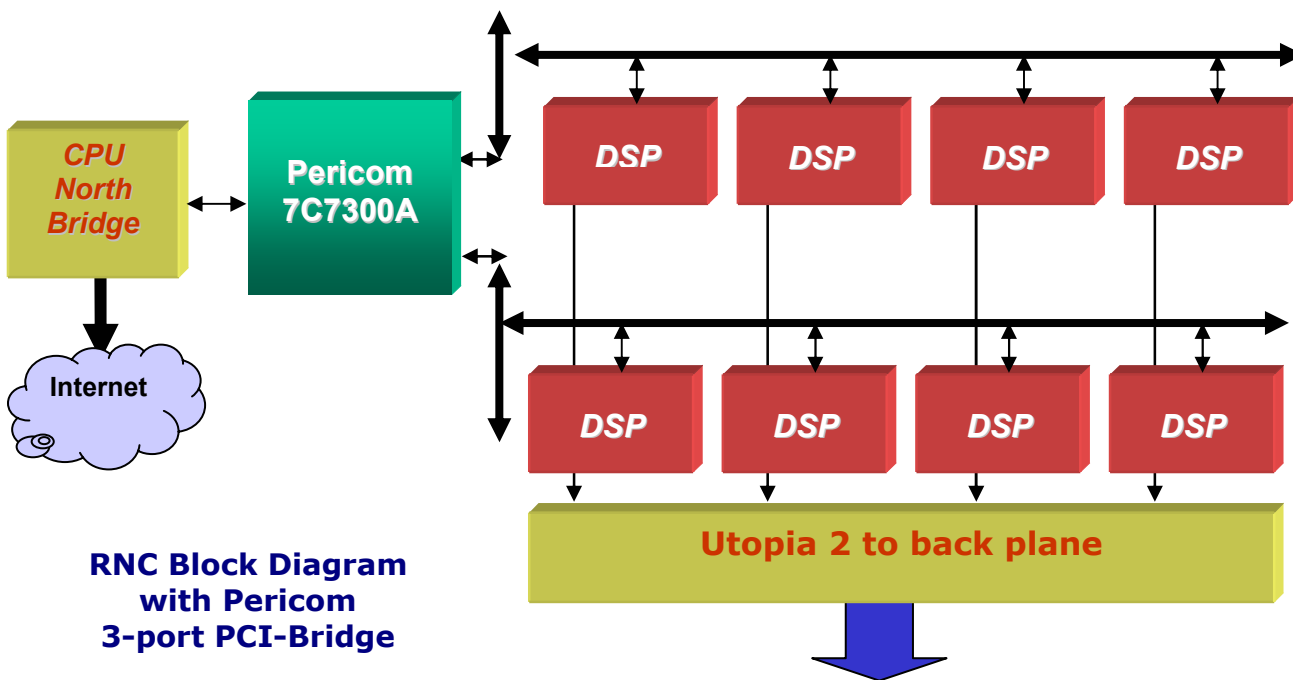
The PI7C7300A device offers key advantages in this application. The designer would need to expand the PCI bus to have 8-16 DSPs. These DSPs will be running at 25 or 33 MHz. In order to have better bandwidth, the designer may run the primary bus at 66 MHz. This is a Synchronous device so the primary bus will be running at the same speed as the secondary bus or it will run at twice the speed.

Another important feature for this device is that it is highly integrated. The 7C7300A offers two standard PCI bridges integrated into a single chip. This is important for this application since it will save a lot of circuit board real estate and Power.

This proprietary device has been in production for several years now and has been performing well in many different customer applications.

Why is the PCI-to-PCI Bridge a Must?

- This application requires many DSPs; 8-16 DSPs depending on how many lines are needed.
- The device will be used in the Control plane, the DSPs do not run higher than 33 MHz.
- The PCI bus is the bus of choice for the DSPs. Since it is a well defined standard and designers can easily expand to many loads.



RNC Block Diagram with Pericom 3-port PCI-Bridge

Key Features & Specifications

- PI7C7300A
 - 32-bit/66MHz Three-Port PCI bridge
 - Compliant with the following specifications:
 - *PCI Local Bus Specification*, Revision 2.1
 - *PCI-to-PCI Bridge Architecture Specification*, Revision 1.1
 - *PCI Power Management Specification*, Revision 1.0
 - Concurrent Primary and Secondary port operation
 - Three 128-byte FIFOs for delay transactions
 - Three 128-byte FIFOs for posted memory transactions
 - Packaging:
 - 272-pin PBGA package
 - Industrial temperature support
 - -40°C to 85°C

Key Benefits

- For PCI bus expansion and speed isolation
- Highly Integrated three ports PCI bridge
- Industrial Temperature range
- Enhanced Performance

Additional Information

- Website
 - Datasheets, Product Presentation, IBIS, App Note, Quality & Package Data, and more...
 - www.pericom.com/pcibrIDGE
- Order Literature Online
 - www.pericom.com/literature
 - Product Selection Guide and Cross Reference
 - Databook CD

Contact Information

Please contact your local Sales Representative or franchised distributor. Contact list provided on the web:

www.pericom.com/contact

Application Support:

<http://www.pericom.com/support/apps.php>