DoGav Systems

GENERIC FRAMING PROTOCOL
(ITU-T G.7041)

Data Sheet
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PRODUCT OVERVIEW

Freescale's PowerQUICC family are a versatile one-chip integrated microprocessor and peripheral combination that can be used in a variety of controller applications, and are particularly suitable for the communications and networking markets.

The PowerQUICC II processors and the MPC8555E/8560 PowerQUICC III processors incorporate two main components: an embedded core processor built on Power Architecture technology and a communications processor module (CPM) - a dedicated RISC engine optimized for handling communications tasks. The PowerQUICC II Pro processor family incorporates a next-generation communications engine known as QUICC Engine (QE).

Both the CPM and the QE support a wide range of protocols, and they operate independently from the core processor. They have their own instruction set and can be programmed via "microcode". This presents the opportunity for implementing higher levels of networking protocols and/or introducing new protocols, resulting in considerable application complexity offload and an increase in the overall performance.

The Generic Framing Protocol (GFP, ITU-T G.7041) microcode product is a unique off-the-shelf offering, designed to take advantage of the PowerQUICC features. It provides an open interface (API) for the fast and easy integration of any operating system solution running on the PowerQUICC core.

PRODUCT DESCRIPTION

The GFP provides a set of functions that support a generic interface to underlying frame representation systems (FRSs). The interface layer allows mapping of variable length, higher-layer client signals over a transport network like SDH/SONET. The

client signals can be protocol data unit (PDU) oriented (like IP/PPP or Ethernet Media Access Control [MAC]) or can be block-code oriented (like fiber channel). Unlike the popular HDLC protocol, where the bandwidth expansion is non-deterministic, GFP uses only the information in its header for frame delineation, allowing deterministic bandwidth and reducing latency.

FEATURES

o Fully implemented in microcode
o Supports ITU-T G.7041
o Available for the following Freescale devices:
  ▪ PowerQUICC I
  ▪ PowerQUICC II
  ▪ PowerQUICC II PRO
  ▪ PowerQUICC III

ABOUT DOGAV SYSTEMS

DoGav Systems is a leading provider of software and hardware consultancy and training services. It specializes in Freescale's processors, in particular the PowerQUICC family of communication processors. It has a proven track record of over 20 years supporting Freescale customers in developing market-leading products for the communications equipment market.

DoGav Systems is Freescale's most experienced and active microcode developer. Since receiving its license in 2000, it has developed numerous customized microcode packages for both small and large Freescale customers. These packages are now successfully deployed in commercial products. In addition, DoGav Systems also offers more than 30 off-the-shelf microcode products for the PowerQUICC I, PowerQUICC II, PowerQUICC III and PowerQUICC II Pro processors.

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