77V011 Frequently Asked Questions

1. How many cells can be buffered in the 77V011?
There are no internal FIFO's in the 77V011. Buffering inside the device (the pipeline) is less than one cell. The DTxCLK can be configured to stop when the pipeline is full, which is the only indication that the pipeline is full. The Stall options are in registers 0x8002 and 0x8003. There are no flags to indicate the pipeline is empty.

2. Does the 77V011 generate idle cells?
No, the 77V011 does not generate Idle/Null cells.

3. Does the 77V011 start its Tx Byte Location and Rx Byte Location relative to zero or one?
The Tx and Rx Byte Location starts at zero, so the Byte Location can be zero through seven. A location of four to seven would be used if there is a TAG added to the cell. Figure 19 of the data sheet shows an example of the sub port byte location.

4. Is the GFC/VPI byte considered byte location zero or one?
The GFC/VPI are at byte location zero, when referring to the sub port byte location.

5. Can I stop the 77V011 from polling on the UTOPIA 2 interface?
The UTOPIA 2 polling cannot be disabled.

6. I cannot find the In-stream register address for utility bus write and read. Can you help me?
The utility bus is used to access the PHY registers. The PHY address map is shown on page 24 of the data sheet, and starts at address 0x00. Each PHY is allowed 256 bytes of register space. So the first PHY's registers start at address 0x00. The second PHY's registers start at address 0x100, and so on. This is the reason that the 77v011 registers start at 0x8000.
As an example to read or write to the first PHY's second 8-bit register the address would be 0x0001, assuming the physical PHY registers, for each PHY, start at 0x00. To read or write to the second PHY's second register the address would be 0x0101. To read or write to the third PHY's second register the address would be 0x0201.

7. Can you give me an example of an In-stream cell write command?
The following is a cell that will write one byte of data (0x08) starting at 77V011 register address 0x008002.

In-stream cell sent to the 77v011 from the host:
00 00 01 f2 (77V011 In-Stream header value)
30 (HEC calculated by the PHY)
00 01 (transaction ID can be programmed to any value)
46 (acknowledge requested for the write operation)
01 00 00 00 00 00 00 (device ID)
01 00 80 02 (write one byte starting at address 0x008002)
08 00 … 00 (data and padding to write)
02 ac (crc-10 calculated by application software generating the in-stream cell)

Reply cell generated by the 77v011 and sent to the host:
00 00 01 f2 (77V011 In-Stream header value)
00 (HEC)
00 01 (transaction ID copied from the original cell)
26 (acknowledge for the write operation)
01 00 00 00 00 00 00 (device ID)
01 00 80 02 (write one byte starting at address 0x008002)
08 00 … 00 (data and padding)
02 8b (crc-10 calculated by 77v011)

8. Can you give me an example of an In-stream cell read command?
The following is a cell that will read one byte of data starting at address 0x008002.

In-stream cell sent to the 77v011 from the host:
00 00 01 f2 (77V011 In-Stream header value)
30 (HEC calculated by the PHY)
00 01 (transaction ID can be any value you want)
45 (acknowledge requested for the read operation)
01 00 00 00 00 00 00 (device ID)
01 00 80 02 (read one byte starting at address 0x008002)
00 00 … 00 (data and padding)
03 47 (crc-10 calculated by application software generating the instream cell)

Reply cell generated by the 77v011 and sent to the host:
00 00 01 f2 (77V011 In-Stream header value)
00 (HEC)
00 01 (transaction ID copied from the original cell)
25 (acknowledge for the read operation)
01 00 00 00 00 00 00 (device ID)
01 00 80 02 (read one byte starting at address 0x008002)
08 00 … 00 (one byte data read and padding)
03 f1 (crc-10 calculated by 77v011)

9. Can you recommend a suitable EEPROM to use with the 77V011?
Xicor X25020 EEPROM.

10. Is the EEPROM required?
No, this is an optional device used to store an alternate In-stream header and sub-port value, and/or device specific information used for Identify/Discover commands.