



THE PREMIER ONLINE COMMUNITY FOR GLOBAL SUPPLY CHAIN PROFESSIONALS



WEEKLY MESSAGE COUNT

035



[Home](#) [Blogs](#) [Message Boards](#) [Research](#) [Key Sections](#) | [Join](#) [Login](#) [About](#)

**WHAT'S NEWS**

Unlock IIoT Value Through Service Assurance in Manufacturing Plants - With manufacturing ...

FRANCIS DACOSTA

## IoT Calls for Simpler Protocol



**Francis DaCosta, Engineer**  
9/30/2014 (1) comment

NO RATINGS  
LOGIN TO RATE

Like 0 Tweet Share G+

BIO  
EMAIL THIS  
PRINT  
COMMENT

In my last blog, I described why Internet of Things traffic must be self-classified if we are to wring meaning from billions of devices. Those self-classification techniques work fine with IPv6 -- but IPv6 has too much overhead for the vast majority of IoT devices. Instead, I suggest a minimal data format I call Chirp.

With Chirp, only the most important elements of an IoT signal need be sent or received. A Chirp can consist of a classification of data type, some minimal (non-unique) addressing, the actual value or reading, a directional "arrow" indicating whether this is a message intended for a device or for a server, and a minimal checksum to protect against garbled transmissions.

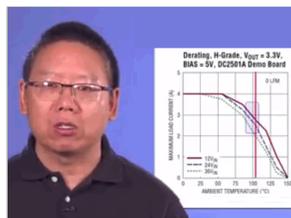
As I explained in my book, the low overhead of a Chirp is especially important for the IoT because many devices will send or receive only a tiny squib of data with each message -- often only 8 bits or fewer for a simple reading or status. This minimum message requires the addition of only 3.5 bytes of overhead to form a viable Chirp. Contrast this with roughly 40 bytes of overhead for an IPv6 packet to encapsulate that same 8-bit-or-less message, and the efficiencies become clear -- not to mention the processor power and memory needed to manage an IPv6 connection.

A Chirp device need not be concerned with managing a higher-level client-server relationship. Instead, Chirps may simply be repeated when a reading or state changes. Since the overwhelming majority of IoT messages are each individually uncritical, the success of any one Chirp transmission is of no consequence. For those applications that are critical -- a video surveillance data stream, perhaps -- IPv6 is available.

Read the rest of this article on EBN sister publication *EETimes*.

EMAIL THIS PRINT COMMENT

SPONSORED CONTENT



**LTM8002: High Efficiency, Ultra Low EMI Step-Down Power  $\mu$ Module**

The LTM8002 is a 40VIN, 2.5A step-down  $\mu$ Module® regulator. It includes the switching controller, power switches, inductor, and all

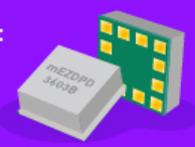
support components. It supports an input voltage range of 3.4V to 40V, and output voltages from 0.97V to 18V.

Sponsored By Analog Devices

### Software Defined DC/DC Power Modules

**Programmable:**

- $V_{OUT}$ ,  $I_{OUT}$
- Switching Hz
- +35 more parameters



Programmable DC/DC Power Modules

[Learn More](#)

**MPS**

### EBN Newswire

- 10/5/2018 project44 Extends Advanced Visibility Platform with ...
- 10/5/2018 DMG Blockchain to Develop Blockchain Solutions for ...
- 10/5/2018 ACSM Awarded Grant to Help Improve Public Health ...
- 10/5/2018 DHL & WE Continue to Empower Exceptional Young ...
- 10/3/2018 Creative Electron Adds AI to TruView Parts Counter
- 10/3/2018 ECIA Reorganization Better Serves Unique Needs of ...
- 10/3/2018 project44 Secures \$45M in Funding to Expand its ...
- 10/3/2018 Barcoding, Inc. Expands Team with Recent Hires
- 10/3/2018 Future Electronics Signs New Worldwide Agreement with ...
- 10/3/2018 Bosch's BMA400 Triaxial Accelerometers, Now Available ...
- 10/3/2018 TDK-Lambda's DSP Series of AC-DC, DIN Rail Power ...
- 10/3/2018 Rutronik and Osram Expand Distribution Agreement to ...

[MORE NEWSWIRE](#)

### Resources

sponsored content

- [▶ How Harnessing Digital Trends Will Shape the Digital Enterprise](#)
- [▶ Digital Manufacturing Drives Sustainability & Safety in the Workplace](#)
- [▶ The Digital Economy & the Changing Supply Chain](#)
- [▶](#)