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By Tom Wilson 22nd December 2015 [Add to Bookmarks](#)

## LHC to use RapidIO interface for big data transfers

CERN, Europe's nuclear research facility, has worked with US-based interface IC firm Integrated Device Technology to create a data bus platform with the necessarily low latency needed for data analytics at the organisation's Large Hadron Collider (LHC) and data centre.



Large Hadron Collider (CERN)

CERN recognised it needed to improve overall data acquisition and analysis for the massive volumes of data collected by the experiments on the LHC, the world's largest and most powerful particle accelerator. The LHC produces millions of collisions every second in each detector, generating approximately one petabyte of data per second.

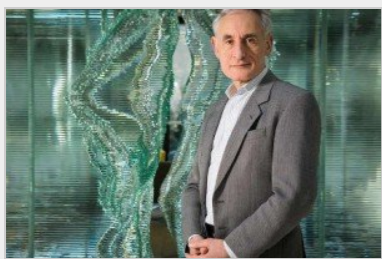
CERN worked in partnership with IDT to create a low latency interface based upon the company's [RapidIO device technology](#). It was part of a three-year collaboration between IDT and CERN openlab.

"The key to achieving better data analytics performance is having superior real-time interconnect with low, deterministic latency," said Alberto Di Meglio, head of CERN openlab.

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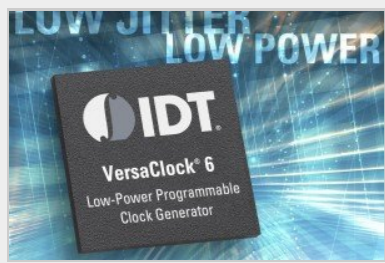


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RapidIO was used because it provides a low-latency connection with deterministic transfer between clusters of computer processors, dramatically speeding the movement and processing of data.

The LHC platform is based on x86 processing, a 200GBaud RapidIO interconnect fabric, network interface card and CERN's root analytics framework.

The initial development is based on a small number of nodes that can be scaled to a much larger number of nodes at rack scale.

In subsequent phases of the three-year program, IDT and CERN engineers will build out larger scale computing systems with optimized performance and begin using the low latency rack scale processing power system to analyze data.

Sailesh Chittipeddi, IDT's chief technology officer, said:

“This collaboration with CERN openlab is about implementing programmable real-time mission-critical data analytics. The development of the RapidIO-enabled analytics platform is the first big step toward maximizing the use of all the data generated by the important work conducted at CERN.”



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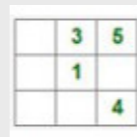
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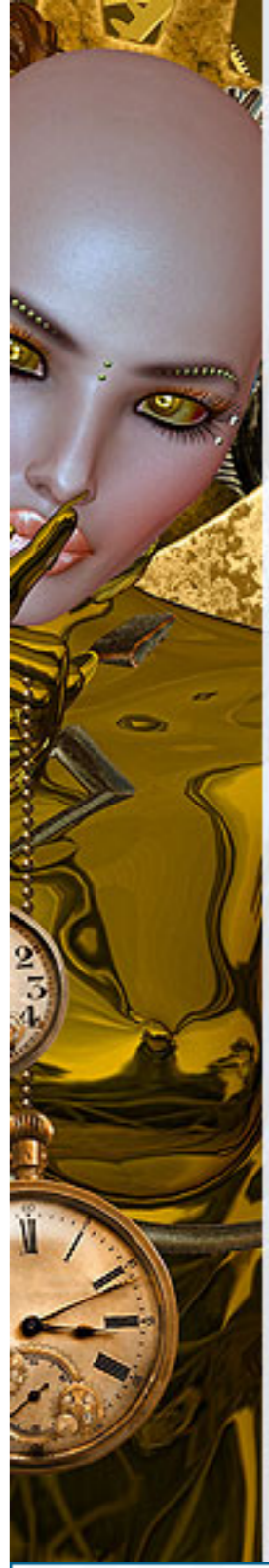
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