

Migration from legacy Token Ring to Intel® Gigabit Ethernet boosts performance for Bielefeld’s resource-hungry SAP applications

Intel® Gigabit Ethernet has enabled Bielefeld’s Municipal Authority to upgrade its ageing networking infrastructure to meet the heavy daily demands placed upon it by some 2500 users, many of whom need fast, reliable access to the organisation’s newly-implemented SAP applications.

Case Highlights

Profiled Organisation	Stadtverwaltung Bielefeld (The Municipal Authority for Bielefeld in Germany).
Challenge	Bielefeld’s Municipal Authority was planning to implement three major SAP database applications to handle many of its administrative functions. As a result, its ageing Token Ring network needed to be upgraded to Ethernet standard as a matter of urgency in order to provide users with reliable, high-performance connectivity to the SAP database via its Windows* NT servers.
Solution	Install Intel® PRO/1000 Gigabit Server Adapter cards in its ten Intel processor-based servers.
Benefits	Intel® Gigabit Ethernet now provides the Authority with the necessary robustness, throughput and high performance to support its resource-hungry SAP applications. In time, it will also enable the Authority to migrate completely from its legacy Token Ring network to a totally Ethernet-based topology.

Summary

330,000. It has around 2500 staff who deliver public services to the town’s citizens from around 60 office sites. Many of these would require fast, reliable access to the organisation’s SAP applications which were soon to be implemented.

At the same time as implementing these major SAP database applications, the Authority’s IT department wished to upgrade its ageing Token Ring network to Gigabit Ethernet standard to provide its users with high-performance connectivity to the SAP database. The solution was to install Intel® Gigabit Ethernet Server Adapter cards in its Intel processor-based IBM* Netfinity servers.

As a result, the Authority now has a robust network that provides ample throughput and high performance to support the heavy demand placed on its SAP system. Today, Gigabit Ethernet provides the central network connection to all three of these business-critical applications. In the near future, the solution will also enable Stadt Bielefeld to migrate from its legacy Token Ring network to a network infrastructure based totally on Gigabit Ethernet.

Challenge:

Bielefeld's Municipal Authority previously had a Token Ring network serving some 2500 users in around 60 locations, some of which were connected to an Ethernet network via Andrew* translating bridges.

The Authority's IT Manager, Georg Hofemann, realised the performance of the central LAN segments was insufficient to support the Authority's planned new SAP applications. He says that Stadt Bielefeld wanted to implement three major SAP applications at once. The first of these was SAP IS/PS (Industry Solution/Public Sector) with functions for planning and executing Stadt Bielefeld's annual financial budget, including the town's tax rates. The second would handle the Authority's real estate administration and provide functions for the leasing and maintenance of buildings. The third application, SAP HR (Human Resources), would be used by Bielefeld's personnel department to manage employee communications.

"We wanted to do all of these things at the same time," says Georg Hofemann. "Gigabit Ethernet was therefore important to ensure fast, reliable, and high performance connectivity between our 10 Intel processor-based SAP-Application Servers and our IBM S/390, OS/390 SAP-Database Server.

Without the high level of performance provided by Intel® Gigabit Ethernet technology, it would not have been possible to effectively implement these new SAP applications."

Process:

The Bielefeld Municipal Authority had considered using ESCON Channel (Enterprise Systems Connection) to link its SAP application servers to the IBM S/390 database server over optical fibre, using dynamically modified ESCON Director switches. "When we looked into it in more detail, we discovered that the ESCON-Adapters we required for our Windows-based systems were extremely expensive and slower than Gigabit Ethernet," says Georg Hofemann. "In any case, with one eye on the future, Gigabit Ethernet seemed to us to be a more promising technology," he adds.

Stadt Bielefeld began by using an isolated Cisco* 8-port Gigabit switch to provide connectivity to the SAP application. This was later replaced by a central Gigabit Ethernet network with two Extreme Black Diamond switches. Connection to the Token Ring network was provided by a Madge* TR-Switch via a Gigabit up-link. The new network also needed to accommodate the translation of the Token Ring and Ethernet protocols.

"Gigabit Ethernet seemed to be the most suitable solution from the point of view of robustness and throughput capacity," says Georg Hofemann.

Solution:

Stadt Bielefeld now runs three SAP systems for test, production and quality. The internal connection of all three is via a Gigabit Ethernet network. In the past, the connection of all its application systems to its many client systems was via a Token Ring network, but this is now being continually upgraded to 100Mbit and 1Gbit Ethernet performance.

"Uninterrupted performance is essential to the successful operation of our network," says Georg Hofemann.

"The Gigabit Ethernet solution addresses our problem perfectly. We are particularly pleased with its level of throughput and capacity. Indeed, it has made our networking operations much more productive."

So pleased is Stadt Bielefeld with the results, that it is now planning to completely replace its Token Ring network infrastructure with Gigabit Ethernet in the coming months.

Find out more about a business solution that is right for your company by visiting the Intel website at:
<http://www.intel.com/cd/network/connectivity/emea/eng/solutions/114572.htm>

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