



# TMX 880 Times

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## THE VERIZON RFP COMPLETED!



The Multiservice Switching Solutions team responded to Verizon's Large Core ATM Switch initiative Request for Proposal (RFP).

The response was targeted to meet Verizon's network strategy. The solution includes using the TMX 880™ Multiservice Xchange Switch and the NavisCore™ TMX 880 Element Management System to aggregate ATM interfaces from CBX 500™ and GX 550™ switches to the TMX 880 system using ATM cross connects for transport over MPLS.

The TMX 880 system will provide multiservice capabilities as an IP core router aggregating ATM traffic over a high-speed core with no loss of performance, and with no increase in latency. The TMX 880 system also offers unique network management to seamlessly integrate into Verizon's network today, which will result in customer operational and training cost savings.

It took a great, organized effort by the product house TMX 880 team, the customer service team and many others, working long hours, weekends and through the holidays to develop a solution that meets the customer's requirements positively.

The response to the RFP was delivered to Verizon in record time; as a result the RFP was delivered to the customer one and a half days before the deadline.

Leo Marcotte, Director of Systems Engineering for the Verizon customer team, expressed his gratitude for the TMX 880 team's dedication in responding to the RFP.

"The TMX 880 team has gone above and beyond working through the RFP by developing an innovative solution that meets Verizon's converged network needs.

From my personal observation in day-to-day contact with the TMX 880 folks during the past few weeks, I feel that the future of Lucent data products is in good hands."

Phil Robins, expressed his thanks to each member of the product team including the following members of the TMX 880 Engineering organization: Danny Canton, Glenn McGuire, Ion Ionescu, Ron Poole and Sandy Goldfless, and from Program Management for the TMX 880 System: Dave Nowoswiat, Glenn Arnold, Linda Budiman, and Mark Dobson.

Members from other Lucent groups were part of this concerted effort as well.

"It's an awful lot to ask of people to put something like this together at any time of the year but I believe it is especially hard during the holidays. Frankly, when everybody in the business community is winding down and attending to family and friends, it's painful having to grind through a most unusual RFP where none of the questions are easy and creativity is key. Not to mention having to travel and put in many long hours..."

## HIGHLIGHTING PETER HIGGINSON

Peter Higginson is the Technical Director working in the UK group.

He oversees the implementation of IPv6, MBGP, PIM-SM, ATM VP tunneling, MPLS over



ATM, ECMP and the migration towards a multiservice switch environment and has personally worked on the hardware routing assist logic.

He has had an interesting and varied career. He taught Computer Science courses and did network research at University College London from 1971 to 1986. During this time Peter was also the Software Director for a small UK company that made X.25 packet switching product with host emulation capability.

Later, in 1990, he went to Digital Equipment Corporation to work in advanced development. While at DEC, Peter worked on higher-level protocols such as IS-IS and ended up working in the Networks Products group on big (for the time) router products used by several large stock exchanges.

Hired by Ascend in 1998 as the UK Development manager, Peter worked on the IP Navigator and formed the present UK group. In January of 2000 the UK group transitioned from the Westford

group to the Marlboro Nexabit team. Peter and the UK team first worked on IP Multicasting and most recently on VP tunneling.

In 1973, Peter put the first host outside the USA onto Arpanet.

"It was Host # 42! The computer was 6-feet high, by 10-feet long and 2 1/2-feet deep. It was a PDP9; it had the same computing power as some of today's wristwatch calculators. We did manage to upgrade it with a maximum of 64 Kbytes of memory!"

Peter has always liked working on the hardware/software interface and using hardware and FPGAs to speed up data progress. He enjoys watching the bits going through the hardware and the PGT tables.

Peter's substantial knowledge and experience makes him a key person in the TMX 880 group.

"I thrive on the challenge of working with the TMX 880 technology. I especially enjoy joining software/hardware projects, working with people like Chuck Benz on the FPGA redesign.

The TMX 880 group has a family dynamic, albeit chaotic at times. It's one of the benefits of being in a relatively small group. Everyday there is a new technical challenge, particularly with our implementation of VP tunneling. With VP tunneling we do what no one else can do!"

Peter's hobby is line dancing!

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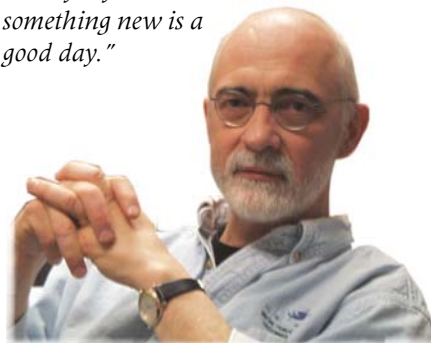
#### **HOT TOPICS - CeBIT TMX 880 DEMO**

*Multiservice Switching is showcasing the TMX 880 system at the CeBit show in Germany, March 13 - 20. The TMX 880 system will be displayed next to the NavisCore network map to demonstrate integration and connected to the SpringTide® system. The TMX 880 will be positioned as Multiservice Switching Division's flagship product.*

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#### **JOHN STOWE IN THE SPOTLIGHT**

*"Everyday that I learn something new is a good day."*



John has more than 30 years in the networking business. He has worked on it all—from mainframes and microcomputers to PC LANs.

Before coming to Lucent, John worked with John Sax at a company that provided high-demand, real-time networks for the top fifty Fortune Financial companies. John was the Director of Quality Assurance and the Primary Network Design Engineer.

He was enticed into coming to Lucent by John Sax. During his first year with Lucent, he managed the Technical Marketing group, traveling around the world setting up trade shows and giving technical presentations to both customers and system engineers. He now manages the Integration group.

It's not so much what John does, but how he does it. John's enthusiasm for the TMX 880 technology is evident when he speaks about the time he designed and implemented the demo for SUPERCOMM 2001.



"We worked with Agilent Router Testers. We had the TMX 880 system fully loaded with eight OC-192 IOAs and six Quad OC-48 IOAs. Agilent

has not found a box that can stack that many testers at once. It was the most populated box on the floor!"

We passed 140 Gigabytes of traffic per second, while maintaining 480,000 routes and 32 BGP peers. That's a boatload of traffic. It was a lot of fun!"

"I have seen a lot over my 30-year career; I have worked with some brilliant people, but now I have finally landed home. The TMX 880 system is on the leading edge, you can't have more fun than that!"

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#### **HOT TOPIC**

*Testing proving low latency and low jitter still shows the new software and new features doesn't change the fact that the TMX 880 is a very fast box.*

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#### **WELCOME ABOARD**

Welcome to Jean-Tsung Hsiao, Jill Callander and their teams from CSD. We are delighted to have you join our TMX 880 group.

You can find Jean and his group members next to Technical Publications. Jill is in the office next to John Sax.



Jean-Tsung Hsiao and Jill Callander

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#### **NORMANDY, COMING DOWN THE HOME STRETCH**

In a dedicated, joint effort, the TMX 880 team is pushing toward CI!

SQA is aggressively testing, reporting bugs and verifying fixes. Meanwhile, development is fixing problems and continuing to produce a robust MX OS and the NavisCore TMX 880 Element Management System.

The customer team is working on the following to showcase and demonstrate our product.

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### ATM MPLS INTEGRATION DEMO FOR QUEST

The Data Sales Acceleration Team produced a successful demonstration for Quest in only two-short weeks. The demonstration featured Lucent OPTimum cell trunks with cross connects to the TMX 880 switch, and transport of the trunks over MPLS.

With enormous team effort from the Product House group, including Product Management, Engineering Technical Services, Software Quality Assurance and Engineering the solution was configured and executed on time!

To begin the demo, John Sax presented the value of the ATM cross connects with the ATM over MPLS solution. The demo then moved to the lab where a cable pull demonstrated the VNN and MPLS reroute support. The NavisCore TMX 880 Element Management System was used to demonstrate integration.

Based on the presentation and demonstration Quest showed renewed interest in the solution and provided project management with new and challenging requirements.

The effort received rave reviews from Quest and the customer team. Thanks to all for the extra effort it took to make this demo a success!

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### VERIZON OPEN HOUSE

Forty Verizon employees are coming to an open house in Dallas to see the Lucent product line, *especially* the TMX 880 system working with the NavisCore TMX 880 Element Management System.

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### BELL SOUTH TRIAL

Bell South is staging trials using three TMX 880 systems and the GX 550 in the Lucent Lab in Atlanta.

The purpose of this trial is to demonstrate new improvements to the TMX 880 system, engage Bell South in the TMX 880 system / GX 550 switch solution and be invited into Bell South's labs for certification.

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### HOT TOPIC TCP/IP TRAINING IN WESTFORD

*John Stowe is presenting a 3-day TCP/IP training presentation for 50 people in Westford February 11. Contact John directly for more information.*

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### OCTAL GIGABIT ETHERNET INTERFACE

Just after the Holidays, the Octal GigE Hardware Development team at Indian Hill received a special gift of six new IOA and IOD cards from manufacturing. They were the first prototypes cards that are to be used in the development of the 8-port Gigabit Ethernet Interface feature.

The Hardware development team is currently executing their DVT plan by looking at signal integrity, power levels, control data paths, and data flow. In addition, the Diagnostic and Software Driver teams have begun their evaluation.

Significant modifications were necessary to the Egress DSP code to allow for the scheduling and queuing of outgoing packets for the 8-ports. The teams used simulation environments to prove most of the functionality before hardware was available. To date, the diagnostics team has completed most of their memory and device testing and some of their loopback testing, and the drivers team has completed more than 50% of their scheduled development testing.

The team is also working with the NPI team in providing information and material for manufacturing and test.

The HW Design and support team: (missing are Thuc Vu and Chris McBride)



Don Beran, the lead Octal GigE architect, examining internal signals on the IOD card.



(left to right) Blaine McKenzie, Alina Mejia-Zelaya, Peg Sampson, Tim Ross, Michael Johnson, and Alan Cota.



(left to right) Bob Wiersbe, Daniel Kang, Kathy Schleicher, and Tauheed Ashraf.



The diagnostics and drivers team members: (left to right) seated - John Daly, Matt Bair, Eric Stern; standing - William Chen, Ron Sunderman, Tony Tontillo, Wen Wu.



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## BELL LABS COLLABORATION

Hua Autumn Liu and Jun Bi are working with the team as part of the Bell Labs Research and TMX Development collaboration in the area of MPLS and Traffic Engineering.

Autumn is working with the MPLS team to enhance MPLS fast re-route capabilities and VNN-MPLS interworking for Dover and San Francisco. She has extensive experience in IP and MPLS with Research and INS. She has a wealth of ATM experience and is well suited to help the TMX team achieve its goals in the area of ATM-MPLS interworking and MPLS Traffic Engineering.

Jun will work on the importing and development of VNN into IGP-traffic engineering to support our ATM solution. He has most recently worked on the Lucent GEMS (10G Ethernet Switch) development project responsible for the OSPF routing module, and OSG (Optical Service Gateway/ IP Router) Pluto project.

Their research expertise is helping the TMX 880 team to successfully meet our very aggressive schedule.

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## HOT TOPICS

### TMX 880 TRIALS CONTINUE!

*Many trials are still in progress. One trial, at R-1 Networks, combines TMX 880 systems, Springtide and AP300 for a Video over IP network. The trial begins by implementing an all IP network and then migrating to a MPLS solution.*

*Iowa Communications Networks trial is an IP core trial to provide statewide distance-learning video applications for the college network and both local and long distance services within Iowa.*

*Telefonica Peru Lab validation starts this month to test the ability of the TMX 880 system to solve current BSTDX IP scaling issues. Passing live traffic in the customer's network is scheduled for January.*

*And finally, in Embratel Brazil, the trial is at the core, the largest ISP in Brazil, focusing on QoS and MPLS.*

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## READER'S CORNER

This section is intended for you. We want to answer any comments, or questions that you may have about the TMX 880 system or the team.

The first two questions are from Brian Benson.



*What agency certifications and compliance testing has been completed on the TMX 880?*

The TMX 880 and all new hardware up to and including the OC-192 module are currently being tested at a local (Marlboro) EMC and environmental test lab. Tests include NEBS (for north American customers; includes FCC plus thermal and shock/vibrations) and CE Mark (for Europe, Middle East, and Africa; includes EMC, thermal and shock/vibration) tests. UL/ETSI product safety and Laser safety certifications are being updated to reflect the updated product and new product name.

*What countries are being targeted by Marketing as potential customers, and is the TMX compliant with their own unique requirements of compliance?*

We have been working with Quest, Verizon, SBC, and British Telecom. The CE tests are being run concurrently with the NEBS tests at NTS and are scheduled to be complete by mid April.

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## HOT TOPIC STORK VISITS TO TEAM MEMBERS!

*In the UK, baby Alec Strickson was born on 24th December 2001 at 6:53 am, weighing in at a healthy 8lbs. Both Maria and Alec are well.*

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*Jacquie and Thuc Vu are pleased to announce the arrival of:  
James Anthony Vu. Born 2:46 a.m.  
Wednesday December 19, 2001*

*(Thuc and Jacquie are both members of the IH TMX development team.)*

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*And finally, Ean William McBride was born 1/25/02 at 4:51pm, weighing 7lbs 5oz, at 19 3/4in long! Everyone is healthy, doing well and sleeping a lot.*

*Congratulations to Chris McBride (IH) and family!*

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