

## *IPNx™ Datasheet*

### **World leading switching technology available in high density format from WTL.**

96 E1s can be delivered in 40cm (9U) of rack space.

E1s support voice processing (for DTMF detection, IVR etc)

960 channels (32 E1s) of standard VoIP (SIP, H323 or both) or 480 channels (16 E1s) of NOP compressed VoIP in the same chassis.

STM-1 high speed optical interface available

SS7 on any port

Multiple individual chassis can be linked together to create large switches up to 2048 E1s.

Any protocol in, any protocol out

### **All the Services, All the time**

A broad set of applications is supported by the IPNx and these can be freely mixed on any of the E1 lines – there is no need to have a series of different boxes to offer a full range of services. All these services are delivered as standard - there are no additional licenses or extra software charges to pay.

- Least Cost Routing
- VoIP trunking & toll by-pass
- Broadband telephony
- One stage or two stage dialing
- Wholesale of minutes
- Pre and Post Paid Calling Cards
- Customised promotional calling cards
- 0800 number services to create virtual call centres

### **Best Quality Voice Compression**

One of the specialities of the IPNx is the high audio quality of VoIP support even at compression rates up to 16:1. MOS (Mean Opinion Scores) of 4.3 have been recorded in real customer networks using G.729 (9.6Kbps or 6:1 compression). The high quality is achieved by using NOP WTL's patented IP compression technology.

### **Engineered for heavy traffic environments**

The IPNx has a rugged architecture designed to take a huge amount of traffic without flinching. It will run non-stop at maximum capacity. Hundreds of millions of minutes of traffic a month are carried on IPNx networks all over Europe and the rest of the world. There are many customer locations running databases with 5 million or more Calling Cards. IPNx is also at the heart of one of Europe's major bandwidth exchanges.

This is all made possible by the use of Solaris; a robust, well proven Unix operating system which gives a true industrial grade multi-tasking environment. This operating system is then run on powerful leading-edge Sparc processors from Sun Microsystems.

## Power LCR: Industry Leading Least Cost Routing

The IPNx has Power LCR, a high performance, very highly featured call routing engine at its heart. This gives the product the routing flexibility not normally associated with this class of switch. More than 50,000 real calls can be routed per hour through a single IPNx chassis. (The Busy Hour Call Completion or BHCC is 50K per chassis. When switches are stacked this increases to 400,000). Power LCR allows IPNx to route traffic based on virtually any characteristic of the call:

- Time of day
- Day of the week
- Per inbound route
- By DDI
- By CLI
- By destination number
- Routing by traffic type (distinguishes between speech, 64K data and 3.1KHz audio)

## Best of Breed SS7 Support

WTL has consistently won praise for the SS7 signalling support offered. The secret is the use of WTL's own signaling software and patent pending techniques for interpreting SS7 and carrying it over IP. WTL maintain full control over this software so that it has the required high level of performance and has the flexibility to allow WTL to tailor it to the different national variations around Europe. With the IPNx the SS7 functionality is fully integrated into the same chassis as all the E1 trunks. There is complete freedom to choose the signalling on each E1 port while the switch is running. Highly resilient SS7 architectures can be created using WTL's DMTP3 redundant signalling technology. This allows pairs of signaling links to be spread across two independent IPNx chassis. The two IPNxs may be in the same rack or physically separate – they only need to be linked by an IP network.

## Total Flexibility for VoIP

The IPNx has been built to grow into the switching platform required for the next generation. The IPNx backplane architecture allows any traffic inbound to switch to any traffic outbound. This allows full inter-operability between the VoIP world of the next generation network and the legacy PSTN world (ISDN, CAS or SS7).

For Voice Over IP services WTL's own designed and coded, highly efficient H.323 is available and has passed interoperability tests with many other leading vendors. SIP support is based on the well known and proven oSIP open source stack.

A higher density platform with high availability.

IPNx has the following hardware features designed in to maximize the time that the switch is running:

- **Quad redundant, load sharing power supplies** mean that one can fail without bringing the switch down. The fact that they are load sharing means that each runs below maximum capacity for a longer reliable life.
- **Runs Solaris operating system** - most popular OS for high reliability projects

- **Hot swap, load sharing fans** – temperature control is an important issue in reducing hardware failures
- **Full remote management including remote power on/off** – greatly reduces fix times by eliminating the need for an engineer to go to site.
- **Distributed routing and customer database** – there is no single, central database. IPNx switches synchronise with each other to make sure that any failure is recoverable.

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## Switch Layout

### iPNX Switch Layout

