



Telephony Applications in the IP Age

Introducing the TeleWare PurePlay Approach to Telephony Applications

White Paper

Abstract:

PurePlay is a simple concept with profound implications for how people think about telephony solutions. PurePlay telephony is an open standards based, open architecture based solution, where applications are entirely independent of the underlying network architecture, and truly software only. These PurePlay solutions deliver telephony and communications applications over IP and through the use of Gateways over digital PBX and hybrid Ip and digital telephony netowrks. Telephony becomes another application within Information Technology deployment requirements of enterprises – no special hardware required.

Gartner: First Take – Jan 2005

Recommendation:

“Enterprises that are planning to include SIP in their architecture should consider TeleWare for its core competence in unified communications and extended capabilities in telephony for remote users.”

PurePlay

Introduced by TeleWare in 2005, PurePlay is a simple concept with profound implications for how businesses think about telephony solutions.

Hybrid & Pure IP Telephony

Businesses today are increasingly using converged IT and communications systems, but a pure IP telecoms infrastructure remains rare. The established first generation architectures installed are, more often than not, based on proprietary protocols and/or hardware and for many enterprise networks IP is unlikely in the short term to become more than the delivery of 'islands' of pure IP Telephony interfaces to these more traditional solutions. Industry surveys take a generalist view on VoIP users and as a consequence include PBX extensions, be they TDM with a voice gateways, Hybrid or full blown IP PBXs so it is difficult to determine the actual uptake of IP Telephony, but one thing is clear – the hybrid network is the most common solution in use in the enterprise.

Hybrid and pure IP is related to the infrastructure; PurePlay is an application issue, and it is from the applications that the value of telephony, and much of the value of convergence, is delivered to the business.

TeleWare believes it is not the move to a pure IP solution that is changing the telephony market, but the changing balance between the hardware and software, and the adoption of open standards enabling software applications to run on any network regardless of the infrastructure hardware.

PurePlay – The Next Generation IP Telephony Systems

PurePlay systems, the next generation of IP Telephony, delivers both switching (ie the SoftPBX), and enhanced telephony applications as software, using open standard protocols and without the need for any specialist hardware.

In legacy systems, telephony requires a dedicated connection between end-points which, inevitably, are physical telephones. Switching is carried out using proprietary hardware and any attached applications or added intelligence for switching requires specialist hardware resources and Digital Signal Processors (DSPs).

IP Telephony is voice, video and fax over a data network transported in packets using the Internet Protocol (IP). The 'Next Generation' systems use open standard protocols for call initiation or starting any type of session between parties (Session Initiation Protocol – SIP[♦]) and media streams (Real Time Protocol – RTP[♦]) for content such as voice, fax and video. This solution enables the switching and applications to live efficiently and effectively within the data network. The basis of the internet is that the intelligence is in the end-

[♦] SIP & RTP are Internet Standards developed by the Internet Engineering Task Force (IETF).

points which, themselves, are not defined but must conform to the open standards for SIP and RTP. Once these infrastructure and connectivity issues are standardised over IP, the key differentiator between solutions becomes the applications.

IN this paradigm the infrastructure of the telephony network is open standard based and not dependent on specialist hardware resources, the cost of hardware components of the telephony network reduces dramatically. In addition, since the new hardware options are standard based, they provide a quantum leap in customer choice for resilience, reliability and system scalability.

Open Standards Produce Benefits

Open standards fundamentally changed the computer world in the 1980's by removing the requirement to buy your software (applications) from your hardware manufacturer and, today, history is set to repeat itself but, this time, in the telecommunications industry. The writing of proprietary software to run on a specific manufacturer's hardware is a little dated and, in the computer world, has almost entirely disappeared. There is no technical need for telephony applications to be tied to specific hardware options now that the Telephony network can be open standards based.

Open standards have always provided choice: choice of vendor, choice of hardware and choice of applications. Enterprises will be able to choose the applications to suit their requirements, without the need to 'shoehorn' their requirements into a predetermined profile dictated by their switch (PBX) vendor, and to choose the hardware platform to integrate into their Information Technology infrastructures.

Choice brings with it competition, driving vendors to be innovative with their products and competitive with their pricing. Proprietary has always brought with it premium pricing and, often, restricted features and broken promises on delivery and functionality.

Open standards within a PurePlay environment will increase customer choice and foster true competition in softswitch and applications, bringing many benefits to the enterprise – inevitably reducing cost and increasing functionality, with faster return on investment.

The Power is in the Applications

Infrastructure technology is increasingly a commodity product and, as such, not the provider of business competitive advantage from an investment in telephony. The power is in the applications.

Historically, telephony applications have been provided, in the main, by hardware based switch (PBX) vendors and it was natural that these vendor designed solutions had a focus on delivery on their own specific hardware platforms. Some went out of their way to make it difficult for competitive solutions from independent software vendors or developed in-house to operate with their proprietary platform. This practice continues today with proprietary

hybrid and first generation IP systems. The philosophy seems to be - if the proprietary solution provides a competitive feature rich product, why be afraid of the competition? However, this approach removes from the Business the choice and flexibility that is the value and strength of open standards based solutions.

The benefits of the underlying telephony in a PurePlay environment are derived from the use of one network for voice and data and open standard protocols, enabling the enterprise to connect conforming end-points from any manufacturer, softphones or any software conforming to the standards. The open nature of the architecture and options will provide a price benefit in itself, which has not been achieved from first generation systems.

The enhanced telephony applications are where enterprises will find their competitive advantages and their best returns on investments. There will continue to be the traditional applications for Personal Numbering, Messaging, Call Centres, Interactive Voice Response, Conferencing and Recording type applications which will continue to provide real business benefits in terms of productivity and contactability. These traditional applications should produce an increased benefit within a PurePlay environment as they no longer require specialist hardware resources and there is a real increase of throughput from the same hardware resources.

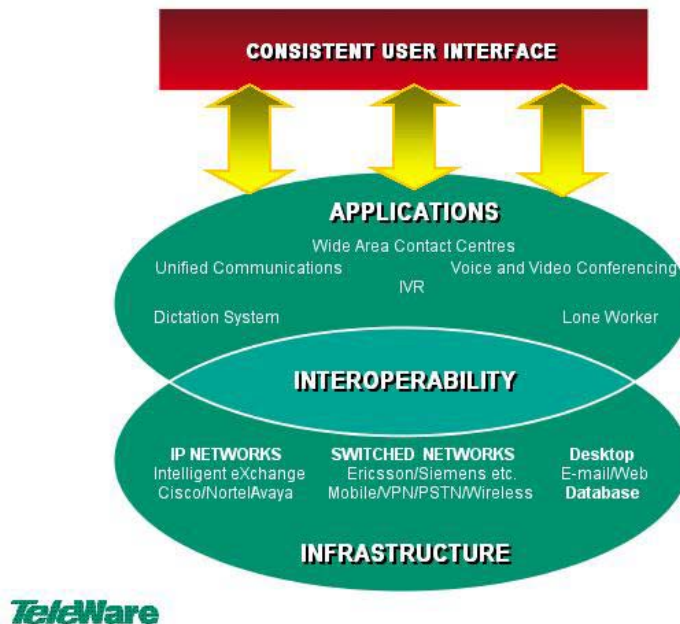
Major new benefits will also be introduced by the increasing levels of integration of telephony into the business process. The more advanced applications addressing databases and providing callers with self-help options will be facilitated using open standards, a common network and common database structures. Advanced Software Development Kits (SDKs) will provide plug-ins to application development environments and open standards will enable the integration of telephony deep within the business process.

These are the ongoing, powerful, real benefits of a PurePlay solution that will provide a real competitive advantage to businesses.

Migration to IP Telephony

For the foreseeable future, it will be necessary for all IP Telephony systems to interoperate with the existing legacy networks, both in the enterprise and the Public Switched Telephony Network (PSTN). This interoperability is provided by a gateway from the IP environment to the legacy network. This gateway will require specialist hardware resources to connect to the legacy network. It is in this specialist gateway that the level of interoperability is crucial for the effective operation of telephony for the duration of the migration for legacy to IP.

A high level of interoperability with common applications overlaying the next generation and legacy infrastructure will provide the enterprise users with a consistent telephony experience, regardless of the underlying architectures. This high level of interoperability will provide the enterprise with many options over the period of migration, enabling the enterprise to choose when to move parts of the enterprise, or even individuals, to the next generation systems. This flexibility enables the maximum benefits to be derived from the new network and the continued operation of existing assets where little or no benefit from a change can be gained.



There will always be new buildings or 'greenfield sites' where the original telephony will be IP. In the vast majority of organisations, for the foreseeable future, there will continue to be the need to migrate in a managed manner, over a period, without disrupting business.

On-Premise or Hosted Solution?

A PurePlay environment, by its very nature, is a distributed network architecture, capable of deployment within an enterprise or as a Centrex based hosted solution over the internet. The PurePlay open software and hardware architecture supports both deployments equally, with the choice being the amount of investment and commitment to be made through Capex or Opex.

Legacy Centrex solutions provided similar options but, because of the architecture, were limited in scope and were proprietary. IP Hosted solutions

based on PurePlay open standards and distributed architecture provide for the full range of telephony features, enterprise operator/attendant consoles, soft phones and applications not generally available from Centrex suppliers. PurePlay IP Hosted services with the full range of enterprise applications are providing on-demand telephony services.

TeleWare PurePlay Solutions

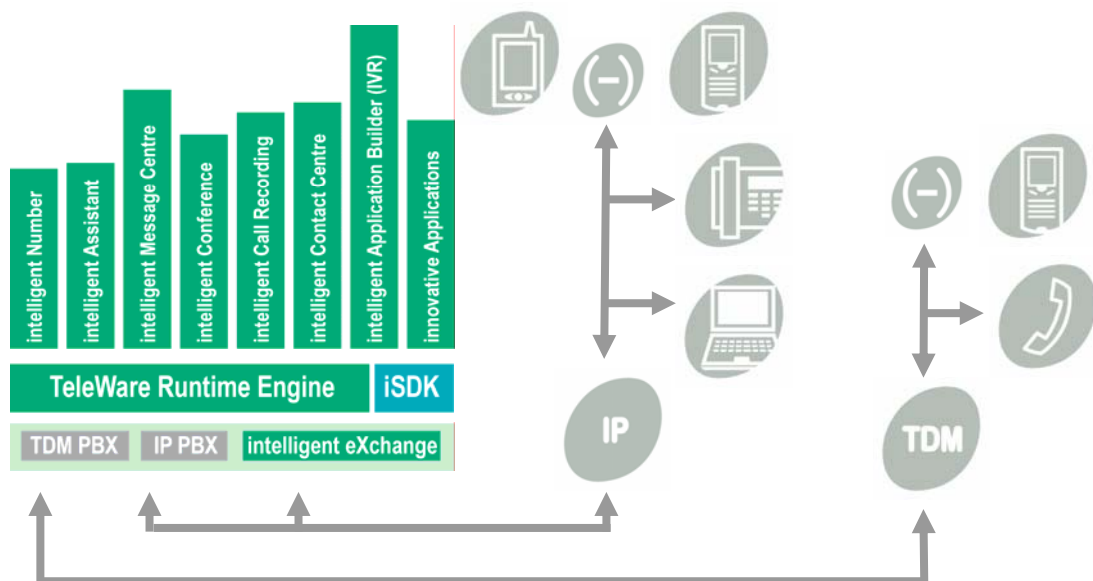
PurePlay is software. The TeleWare *intelligent eXchange (iX)* IP-PBX used for the delivery of TeleWare hosted services is switching in software, that runs in an open standards SIP environment. iX is a PurePlay solution.

iX IP Centrex lines today cost less than legacy PBX extensions and include a soft phone plus the ability to deploy a full range of telephony business applications.

Since 1991 TeleWare has developed hardware vendor independent intelligent communication applications. Today, TeleWare has a comprehensive suite of feature rich enhanced telephony applications that have been engineered to run in a PurePlay environment, as part of a multi vendor legacy solution or as a mixed legacy PBX and IP-PBX solution from multiple vendors.

Enhanced Telephony Applications proven in a traditional telephony solution running a PurePlay IP PBX or hybrid solution

The PurePlay architecture is already well proven and is in use within the TeleWare enterprise customer base as well as within the TeleWare IP Centrex hosted platform, where PurePlay solutions are run on platforms built using Non-stop redundant file servers and blade server technology – proven to deliver carrier grade availability over many years.



TeleWare Architecture Schematic

The need for gateways to legacy systems and the PSTN will continue. The requirement for a high level of interoperability between IP and legacy systems is essential for the migration process. TeleWare experience within the legacy environment has ensured that the highest levels of interoperability are available, providing users with a consistent interface to telephony and applications during migration.

Business Process Integration is a reality with TeleWare for On-Premise or Hosted Service

TeleWare's *intelligent Software Development Kit (iSDK)* and *intelligent Application Builder (iAB)* represent TeleWare's commitment to enabling deeper integration into business processes. iAB includes a drag-and-drop graphical user interface with Automatic Speech Recognition (ASR), Text to Speech (TTS) and database access. iSDK is a plug-in for the Microsoft Visual Studio .NET development environment, enabling all telephony and enhanced telephony within a programming environment without the need for specialist skills.

Conclusion

Telephony switching and applications are available today as open standards (SIP) software-only solutions – PurePlay solutions. These will become the norm and deployment will follow the model of other applications within enterprise IT systems.

For more information on the TeleWare architecture and applications please see white papers on these areas on www.teleware.com