

i-SSW Italtel Softswitch

Technology development, business practices, industry structure and the deregulation of today's telecommunication networks allow operators to provide fixed and mobile users with a wide range of multimedia applications which are very different from yesterday's voice-only services.

Due to the new user-centric approach – driven by most dynamic market segments with heavy PC/mobility/media requirements – service providers have to take important strategic decisions regarding the evolution of their network such as which technologies to deploy and which services to offer. This is essential to ensure competitiveness and guarantee good returns on their investments.

Thanks to the expertise acquired through the deployment of its solution portfolio in real-world contexts as well as its in-depth knowledge of this new scenario, which has switched from network convergence to service convergence, Italtel is ready to help service providers to succeed in all their challenges and turn the promises of this far-reaching revolution into reality.

Italtel Softswitch technology is the right choice for all carriers who want to offer new, competitive and engaging services to both residential and business customers. Italtel i-SSW Softswitch shifts voice onto packet networks and allows carriers to evolve – or indeed create from scratch – integrated 3-play networks and services (voice, video & data), through a wide, compatible solution portfolio. Italtel i-SSW provides carriers with the means to easily develop and quickly provision best-in-class, differentiated, multimedia service offerings, thus increasing ARPU and providing new revenue opportunities. Italtel Softswitch improves competitiveness by providing a carrier-class solution with a proven in-field deployment, fully compatible with traditional legacy network and services, able to reduce both operating costs and the need for future investments.

i-SSW optimizes infrastructure investments and increases carriers' margins, by allowing a wide offer of next-generation services through the deployment of a new, flexible network, able to support existing as well as future multimedia-enriched services and next-generation applications.

Main features

i-SSW is a next-generation multi-service system based on an open architecture that allows the creation of a fully converged environment, enabling operators to offer a wide range of voice and multimedia services, concentrating all traffic within the IP net world.

By separating the three functional layers (Service, Control, Media/Access), i-SSW provides:

- investments saving
- operating expenditure reduction
- new revenue streams
- multivendor-capable networks
- gradual deployment of new technologies

Innovation is an essential component of Italtel. For this reason i-SSW is a future-proof solution which implements the most relevant Softswitch technologies and meets the most exacting market requirements.

The Heart of Telecommunication Network

By integrating a Call Control and a Signalling Gateway on a single platform, i-SSW can be the very heart of a telecommunication network. Using standard IP protocols on a managed IP backbone, i-SSW can offer Voice and Telephony over IP services, as well as Multimedia services, with full Service Level Agreement compliance. In addition, Italtel Softswitch allows interworking between TDM and IP networks through its Media Gateway Control capability implemented via standard protocols.

Availability

The i-SSW system platform has been designed to operate in a carrier-grade environment, meeting the most stringent requirements for public network equipment: specifically-designed hardware to guarantee the highest levels of availability, remotely upgradeable software to avoid service interruption, ITU and ETSI standards conformance for installation (mechanics, powering, EMI, EMC, safety, etc.). Disaster Recovery is also available when a centralized feature is required.

Flexibility

By splitting functions into different layers and using open interfaces, i-SSW is able to offer and manage innovative, converged services. Platform evolution is made possible simply by adding new boards or equipment (increasing the value of the whole solution), without affecting existing features and services.

Scalability

Italtel Softswitch allows different solutions in terms of network capacity – from small single-site installations (thousands of users), up to complex systems (hundreds of thousands users). The network can evolve from one configuration to the next simply by adding new components and can easily be integrated with existing components. This capability allows the network to evolve smoothly, with scaled and gradual investment requirements. In addition, the high capacity of Italtel Softswitch gives it an extremely compact layout, requiring a reduced footprint, minimal power consumption, at a lower cost.

Security

Security is a critical issue in today's business. Prevention is fundamental in both physical and ICT security. Italtel's network Business Security & Continuity offer provides SPs with effective tools to protect their business and the business of their customers. i-SSW is compliant with all the requirements of security systems. Italtel's own experience in this field represents an unbeatable guarantee.

Quality of Service

Quality of Service is necessary to ensure a good transmission level for all media. If this was easy for TDM networks, which were designed and optimized for voice communications using connection-oriented links, it has become much more complex for voice over IP networks.

Italtel – with its wide protocols experience and network architecture know-how – is able to combine all the necessary components and offer a complete, flexible, and remarkably affordable QoS solution.

Network Architecture



i-SSW can deliver Supplementary Telephony Services to its direct users, regardless of their terminal (POTS, ISDN, PBX, IP-PBX, Soft-client, etc.) and their connection to the network. At the network level, the i-SSW routes the call to the final destination (Exiting Media Gateway or IP called party), managing all signalling aspects related to the interconnection with other TDM switches. On the operator's side, all services (such as Lawful Interception, Emergency Call, Local Number Portability) are completely handled by i-SSW.

i-SSW is the key enabler for all the innovative Access Technologies (ADSL, SHDSL, ETTx, Long Reach Ethernet, etc.) in a multi-protocol environment (SIP, H.323, MGCP).

Management System

The management system developed for iMSS Softswitch provides GUI (Graphical User Interface)-based, centralized and integrated control, for the whole system and for all its subscribers.

- The element manager can cover the FCAPS functions for the i-SSW (Fault, Configuration, Accounting, Performance, Security Management) and, at the same time, a complete set of northbound interfaces is available ensuring interaction with OSS level;
- A full range of standard protocols (e.g. SPML, XML, SNMP) is supported to provide easy integration with SPs management systems.

New Business Opportunities

i-SSW safeguards carrier revenues and creates new opportunities of business by enabling all of Italtel's NGN solutions.

The flexibility and the standard interfaces of Italtel Softswitch allow the offering of both traditional and innovative services; an extensive set of supplementary and advanced services can be provided by integrated Application Servers that manage value added services:

- Telephony Services offered directly by i-SSW both to POTS/ISDN phones and IP-Phone;
- Innovative Services offered using the flexibility and programmability of i-SSW itself;
- Value-added services offered in conjunction with proprietary and 3rd party Application Servers and delivered to both fixed and mobile users, regardless of the access technology and media (broadband, narrowband, wireline, wireless, etc.);
- Traditional Services offered interfacing with Legacy Services Platform using INAP/ISUP/MAP interfaces.

Italtel can guarantee full compatibility with existing legacy in-field systems. Our Investment Protection policy is an essential component of Italtel's approach to Network Solutions design and deployment.

IP Multimedia Subsystem (IMS)

IMS is an international, acknowledged standard developed to specify interoperability requirements that allow convergence between fixed and mobile networks as well as the moving of all traffic to the packet-switched environment, while making best use of new and legacy technologies during the transition. i-SSW is now ready to play a key role in such evolution. Thanks to its modularity, i-SSW has well identified its functional entities involved in the IMS transition (MGCF, CSCF, BGCF, SGW). These entities permit the i-SSW to be successfully deployed in an IMS environment using standard interfaces. The whole Italtel Multi-Service Solution iMSS portfolio, also covering the media and service network layers, is now ready for not only a fixed-mobile convergence but, most important, the service convergence game capable of offering new and important revenue streams to operators.

Service-Oriented Architecture

Concerning Web services technology, i-SSW refers to the SOA (Service-Oriented Architecture) model and relevant standards UDDI, WSDL and SOAP. This approach represents the next evolution of the e-business work model, and anticipates the transformation of software applications into Web services, thus preserving legacy application investments. In this scenario, subscriber definition will be based on their network profile and presence, rather than on their access line and/or their handset. The result is a services architecture that will provide advanced session control for all services across multiple access networks.

IP Telephony & Multimedia Application

i-SSW provides Class 5 services to native IP users (H.323, SIP, MGCP), manages Access and Residential Gateways (H.323, SIP, MGCP and H.248) and is capable of managing TDM customers connected to a remote Access Node through V5.x interface and Access Gateway using H.248 protocol. All these types of users are directly managed by iMSS.

Investment Protection and Cost Reduction

The Investment Protection policy is a cornerstone of Italtel's approach to Network Solutions design and deployment. i-SSW safeguards profitability and allows cost reduction through:

- high degree of scalability
- easy upgrade or evolution toward enhanced network solution
- reduced footprint and power supply
- operation and management cost reduction.

If you have any questions or require more information on how we can help you and your organization, please visit www.italtel.com or feel free to contact us at the following address: iMSSinfo@italtel.com