Your fast track to 3G profitability



Create new growth and generate new revenues with the total UMTS solution from Lucent Technologies.

Lucent Technologies
Bell Labs Innovations



UMTS is bringing new revenue opportunities and new challenges for network operators

The Universal Mobile Telecommunications System (UMTS) will enhance end-users' personal and professional lives and generate new revenue streams for network operators. However, before they can tap into these revenue streams, network operators must overcome many new and diverse challenges.

Lucent Technologies, one of the world's leading designers, developers and manufacturers of integrated, multi-service communications solutions, is helping UMTS network operators overcome these challenges.

Extensive primary research has confirmed that pent-up demand for 3G services exists within the enterprise market now. Lucent's UMTS solution has been designed to enable mobile operators to address the needs of this valuable market – providing operators with the ability to capture critical market share ahead of their competitors.



Mobile Applications & Services

Lucent's MiLife™ service delivery platforms simplify the introduction of new and exciting mobile services, accelerating service creation and deployment. The MiLife™ portfolio of products and platforms support popular and open Application Programming Interfaces (APIs), making it easier for you to rapidly add new functionality to your network, creating service differentiation, whilst also offering the flexibility to quickly adjust to the changing needs of your subscribers.

The MiLife™ Solution portfolio includes:

MiLife™ Intelligent Services Gateway (ISG) – the MiLife™ ISG performs mediation functions between your network elements and Internet-hosted service applications, working to OSA/Parlay standards. The MiLife™ ISG allows you to open up your network capabilities to trusted third party application providers and software developers, enabling you to incorporate network-based intelligence into service applications delivered across your network. For example you can add value to end user services by providing applications with call control, user location, account balance and user presence and availability information, creating new revenue opportunities and service combinations.

MiLife™ Developers Program – mobile operators and content providers are looking to link the value of the Internet to the large community of mobile users. The MiLife™ Developers Program allows you to access tools that will fast-track the development of new services for integration with the MiLife™ family of solutions. A Software Developers Kit (SDK) provides a range of tools, from APIs and sample scripts to a network simulator, reducing the cost of application development. More than 80 companies have signed up to the Program directly, and Lucent is also integrating its solutions with a number of strategic web services platform partners.

MiLife™ SurePay® – in high subscriber growth markets there is a need to provide scaleable pre-paid charging solutions to attract consumers, while in mature markets there is an increased requirement for sophisticated pricing packages and control mechanisms. MiLife™ SurePay® is an Intelligent Network (IN) based real-time rating and charging engine for pre-paid and post-paid services that enables you to design flexible tariff plans for individual end user segments. The solution covers all aspects of recharging and customer lifecycle management, customer care, and charging for e-commerce transactions.



Core Network

Our flexible and scalable core network solution has been designed with the all-IP future in mind - providing investment protection through smooth, cost-effective implementation of future releases of the 3GPP UMTS standards. Furthermore, the network elements support open programming interfaces to enable rapid integration of the value-added services required to help ensure ongoing revenue generation.

Lucent's UMTS core network solution has been optimized for secure, high-speed data, enabling operators to meet the needs of the early 3G adopters in the enterprise market with services such as mobile Virtual Private Networks (VPNs).

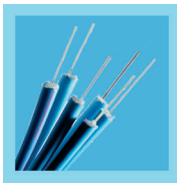
The Lucent UMTS core network portfolio includes:

Flexent® IP Multimedia Subsystem (IMS) - the Flexent® IMS solution is our 3G MSC solution that supports all 3GPP milestones. Our Flexent® IMS offers you an integrated solution that is robust, flexible and designed to fully support your network evolution. As the standards evolve, you can un-bundle the switch architecture in the creation of a distributed IP-based switching environment - giving you maximum investment protection by removing the need for costly and disruptive 'forklift' upgrades.

Flexent® Super-Distributed Home Location Register (S-DHLR) - the Flexent® Super-Distributed Home Location Register (S-DHLR) enables cost-effective, reliable management of subscriber databases. The Flexent® S-DHLR acts as a single logical HLR but is physically distributed, enabling more efficient data routing and providing resilience to system outages. For mobile network operators this means reduced overheads and ongoing customer satisfaction.

Flexent® Gateway GPRS Support Node (GGSN) - our Flexent® GGSN delivers unmatched packet data capacity and advanced, revenue-generating IP services. Our GGSN offers the highest capacity on the market. It is capable of supporting hundreds of thousands of simultaneous individual connections, while supporting advanced functionality that enables your network to deliver a broad portfolio of revenue-generating services.

Flexent® Serving GPRS Support Node (SGSN) - the Flexent® SGSN offers the highest traffic capacity on the market - this means fewer nodes for operators to deploy, faster deployment, simpler network configuration, more straightforward maintenance and reduced signalling traffic. It is based on a Lucent standard platform, the Flexent® Mobility Server, which delivers high scalability with low spares holding costs and minimized cost-of-ownership.



Transport

Our UMTS transport network solutions draw on our market-leading portfolio of IP, ATM and Optical networking products to create a cost effective, high capacity back-haul solution. Our leading position in the IP/ATM multiservices access market, our 'top tier' ranking in optical networking, and the proven skills of our deployment and management organization, Lucent Worldwide Services, enable us to deliver high-performing, flexible transport solutions.

Our field-proven products, combined with our unmatched experience and expertise in complex network deployment, enable Lucent to deliver reliable, flexible and scalable transport solutions that conform to open industry standards -supporting rapid integration, low backhaul costs and low cost-of-ownership.

Our PacketStar™ Multiservice Media Gateways, including the PacketStar™ PSAX 1000 and PacketStar™ PSAX 4500, deliver broadband network access solutions through a smooth, software-based upgrade path. The PSAX 1000 and 4500's broad range of user and network interfaces and the 'any-service any-channel' flexibility facilitates rapid response to customer needs.

Our family of advanced multiservice switches lays the foundation for next-generation networks, and includes the CBX 500™ and GX 550™ Multiservice WAN Switches. With these immensely capable platforms, service providers can scale, simplify, and consolidate wireless and converged public networks and deliver ATM, frame relay, and IP carrier-class networking.

Comprehensive optical and microwave solutions from the Lucent WaveStar® Wireless Network portfolio delivers high bandwidth optical and microwave backhaul solutions for cost effective network deployments.

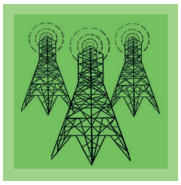


Terminals

To take full advantage of 3G service opportunities, mobile operators will need to offer end-users a range of different mobile device formats - from conventional mobile phones to multimedia PDAs (Personal Digital Assistants), Pocket PCs and beyond.

Lucent has built strong relationships with leading terminals manufacturers to compile a diverse portfolio of cutting-edge terminals. And, to enable operators to address the needs of the early 3G adopters in the enterprise market, Lucent has jointly developed UMTS PCMCIA cards - allowing 3G high-speed data services to be delivered to the mobile workforce via existing laptop PCs and PDAs.

Comprehensive interoperability testing and integrated end-user provisioning tools are ensuring rapid activation and adoption of services - generating rapid revenue creation.



Wireless Access Network

The UMTS Terrestrial Radio Access Network (UTRAN) is based upon Wideband CDMA (Code Division Multiple Access) technology. Having already deployed over 75,000 CDMA base stations worldwide, over 35,000 of which are 3G, Lucent has unparalleled CDMA expertise and experience. This ensures highly scalable and innovative products – protecting operators' investments and ensuring optimal system availability.

Lucent has also developed a suite of best-in-class RF deployment tools (eg. OCELOT™) to facilitate fast, cost-effective deployment of reliable access networks utilizing the minimal number of base station sites and minimizing drive-testing.

Lucent's 3G solutions also include integrated Wireless LAN (i.e. 802.11) "hot spot" coverage to provide enhanced capacity and bandwidth in high traffic areas such as airport lounges, hotels, conference centres, etc.

Lucent's UTRAN solution includes the following products:

Flexent® OneBTS™ node B/base station

- Flexible – supports a range of indoor and outdoor configurations to provide the coverage your customers need
- Scalable – delivers high capacity in a compact footprint with modular expansion as traffic requirements increase
- Interoperability – designed and tested to ensure compatibility in a multi-vendor environment

Flexent® Radio Network Controller (RNC)

- High capacity – ensuring uninterrupted operation as traffic demands grow
- Reliability – built-in redundancy and hot-swap capability ensures minimal downtime and ongoing customer satisfaction
- Future-aware – designed with the all-IP future in mind; ensuring smooth evolution and protecting capital investment



Operations, Administration & Maintenance Solutions

Lucent provides a suite of integrated Operation, Administration, & Maintenance (OA&M) tools that shield the operator from the complexity of the UMTS system, enabling fast, cost-effective network management and customer care. For the network operator this means optimal resource utilization, cost reduction, improved customer satisfaction and, ultimately, sustainable revenue generation.

Lucent's extensive OA&M portfolio includes:

Navis® Operations & Maintenance Centre - this comprehensive portfolio of intuitive network element management tools enable rapid fault correction and performance optimization.

Navis® Revenue Locator - enabling effective revenue assurance and fraud management.

Navis® Wireless Services Activation Manager - ensuring fast provisioning of complex wireless services in multi-vendor networks.

Navis® Radio Configuration Manager - allows mobile operators to dramatically increase revenue-generating call throughput and reduce the operating costs of their network by centralizing and automating the configuration, operations, and maintenance activities for mobile networks.

NetMinder™ Network Trouble Patterning (NTP) - reduces the time to detect and resolve problems, thus maximizing revenues through successful call completion. Most importantly, it maximizes end customer's perception of service quality.

Navis® Network Fault Management (NFM) - the industry's most comprehensive solution for rapid network trouble resolution. With performance proven in networks around the world, Navis® NFM helps ensure your network's Quality of Service, reliability and profitability

VitalNet™ - complete network and application performance management software solutions, providing comprehensive end–to–end performance visibility into the network and the quality of services being deployed over it.



Lucent Worldwide Services

Comprised of more than 12,000 technical professionals, the Lucent Worldwide Services (LWS) division is the largest, most experienced telecoms services organization in the world. For mobile operators, this massive global resource helps to ensure rapid, low-risk infrastructure and services deployment – accelerating time to market while reducing costs.

The Lucent Worldwide Services portfolio includes:

- Consulting - business & network consulting, security planning, audit and assessment
- Marketing - business modelling and marketing strategy definition
- Design - network design, tools & software development
- Deployment - project management, installation, staging and testing
- Operations - network optimization, network management, staff augmentation
- Network Management - customer care, fault management and services provisioning
- Maintenance - on-site or remote technical support, hardware repair & replacement
- Education - customized training, technology certification and skills assessment
- Outsourcing & hosting - cost-effective and reduced risk

Accelerating time to revenue…

Lucent's unparalleled experience in commercial implementation of the underlying UMTS technologies is critical to ensuring rapid infrastructure and service deployment. Furthermore, Lucent's in-depth understanding of the 3G marketplace means that it is able to provide network operators with detailed, accurate business modelling and planning. In particular, our focus on the enterprise market provides operators with a fast track to a profitable, sustainable UMTS business.

Reducing costs…

Lucent's highly innovative products and deployment tools mean significant reductions in infrastructure and roll-out costs, and the fact that Lucent's products are future-ready means that the network operator's capital expenditure is protected in the long-term.

Minimizing risk…

The Lucent Worldwide Services division, the largest, most experienced telecoms services organization in the world, will help to ensure rapid, risk-free system deployment and ongoing support. Access to the unmatched knowledge base of Bell Labs also reduces risk and delivers proven, reliable products and services.

Driving future revenue generation…

Lucent is actively driving the creation of essential revenue-generating services through leading edge products, industry-wide initiatives and compelling partnerships. What's more, thanks to its strong relationships with leading terminal manufacturers, Lucent is able to ensure availability of a diverse portfolio of compatible mobile devices, including plug-in 3G data cards for existing laptop PCs and PDAs.



The Lucent advantage…

Lucent Technologies has the essential experience, expertise and solutions to help ensure its customers succeed with 3G:

- The first vendor to give public demonstrations of 1 Mbps over the air and the first to demonstrate the maximum theoretical UMTS network speed of 2 Mbps.
- In October 2000 Lucent delivered the first commercial trial system to comply with UMTS release 99 standards.
- In February 2002 Lucent announced the successful demonstration of secure wireless Internet Protocol (IP) virtual private network (VPN) connections that pave the way for third-generation (3G) mobile service providers to offer high-speed wireless data services to businesses. The successful tests involved the establishment of secure data access from a UMTS data test terminal connected to a corporate intranet over a Lucent UMTS network.
- In July 2002 Lucent announced a strategic initiative with industry leaders to deliver 3G solutions that will make it simpler for mobile operators to provide enterprise customers with secure and easy-to-use high-speed wireless data access from any location.
- In September 2002 Lucent successfully demonstrated seamless roaming between WLAN and UMTS. End-users equipped with laptop PCs were able to initiate a secure Internet session on an 802.11 WLAN or a UMTS network, and maintain it while moving from one network to the other.
- In December 2002 Lucent joined forces with industry leaders and academia to form the 3G Enterprise Alliance (3GeA). The 3GeA members are among the key influencers in the enterprise market and will bring together their experience and expertise to highlight the business impact and benefits of UMTS mobile networks.
- In January 2003 Lucent introduced Bell Labs-developed business-modelling tools to help enterprises quantify and characterize the benefits of secure, third-generation (3G) mobile high-speed data services for their businesses. Lucent's wireless customers can license the tools to enhance their sales efforts to provide enterprises with 3G high-speed data services.

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Lucent is a world-class supplier of mobility solutions. Innovation is at the heart of our business. Our Centers of Excellence and the global facilities of Bell Labs, are shaping the way our world communicates. We offer unchallenged market leadership in CDMA radio access, the underlying technology for UMTS, ATM backbone networking technology, circuit and packet switching as well as the expertise to integrate and deploy complex networks.

Call Lucent for complete end-to-end mobility solutions.

Visit our web site at www.lucent.com

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