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IP MULTIMEDIA SUBSYSTEM

VOLUME 1/NUMBER 6 DECEMBER 2006

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editor's note

Our End-of-Year Buyers' Guide, Wrap-Ups and Predictions

by Richard "Zippy" Grigonis

It's the end of the first year of *IMS* magazine, and we continue to be excited about our accomplishments and the support generated by readers and vendors everywhere. We pause at the brink of the coming year with equal excitement and look forward to once again bringing you the latest information on IMS products and services.

It's customary at the end of the year to take stock of what has transpired and try to take a peek into the future. As it happens, IMS was steadily building steam in 2006 — indeed, as we went to press, IMS news was flying off the wire. For example, Huawei Technologies and E28 Limited, a mobile multi-mode smart device solution provider, launched the world's first commercial IMS VCC (Voice Call Continuity) solution, bringing true fixed-mobile convergence (FMC) to network operators. (Their system enables seamless roaming and bidirectional handover between WiFi/WiMAX and cellular GSM/CDMA/UMTS networks.)

On the heels of the (news - alert) Huawei-E28 announcement, Ericsson customer Softbank Mobile Corp. in Japan announced the launch of the world's first live IMS network over 3G, powered by Ericsson's (news - alert) IMS solution. Indeed, the end-to-end IMS system has been supplied solely by Ericsson — including infrastructure, system integration and support services. The IMS-based services include Circle Talk (push-to-talk) and HotStatus (presence, group list management).

As for divining the mysterious future of IMS, you'll find in this issue an article by our master of the occult, Yours Truly, consisting of interviews with major figures in the IMS universe, each of whom take turns reviewing how IMS fared in 2006, followed by speculation on where IMS is going in 2007 and beyond. This talkfest is complemented by some additional ruminations in the form of two articles, one by W. Stuart Jones of Apertio (news - alert) and the other by Rick Mace of Tekelec. (news - alert)

So as not to leave any "loose ends" for 2006, our December issue of *IMS* magazine contains all of those terrific things you've been hankering for all year long, here in one, easy-to-hold magazine.

Yes, I'm referring to our IMS Buyers' Guide, the most definitive in the telecom industry. Like its big brother, the IP Communications Buyers' Guide in *Internet Telephony* magazine, it lists IMS-related vendors and their categories. It's the world's largest and best IMS Buyers' Guide — I can say that with absolute aplomb because (to my knowledge and Google's) it's the world's *only* IMS Buyers' Guide.

Like some organic entity, IMS continues to grow, expand and even occasionally mutate a bit. All of the world's wireline and wireless network operators now realize that IMS will be a fact of life, and that they had better figure out how to manage their transition to the telecom infrastructure of the future with a minimum of stress. With proper preparation and planning — not to mention a healthy infusion of investor capital — the user experience in the telecom world will soon advance by light years.

And we'll be there, not just reporting the news, but delivering to our loyal readers in-depth explorations on the premise, the promise, and the reality of IMS.

IMS MAGAZINE™
IP MULTIMEDIA SUBSYSTEM

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THERE ARE MANY FLAVORS OF FMC NETWORKS TO CHOOSE FROM.

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Nortel's IMS Security Strategy

by Rich Tehrani

I had a chance to talk about Nortel's (quote - news - alert) IMS strategy with Eric Bezille, Nortel's IMS product marketing manager for Europe and Asia.

"From our standpoint," says Bezille, "IMS is an evolution for us rather than a brand new thing, given the fact that we are already involved in multiple technologies involving convergence such as SIP and we're involved in all kinds of services on top of voice that serve the end user across many different contexts using different devices and working across different access networks."

"So our strategy in IMS is really to make sure that what we have deployed already in the market based on Voice over IP will work okay in an IMS world," says Bezille. "Fixed-mobile convergence [FMC] services exist today and there is a strong evolution and growth that we see driving operators to deploy pre-IMS solutions and to evolve them into IMS as well," says Bezille.

As IMS becomes a more important part of service provider networks it is crucial that security in IMS networks is as good as it can be. Achieving real security in IMS (IP Multimedia Subsystem) networks is very complicated and relies on passing secure data between network partners.

"As for IMS security, there are different aspects of this," said Bezille, "but the best aspect is the value of IMS providing a separation between the control layer and the application layer. There is a definite benefit from IMS in the sense that it simplifies the way the network is organized. It also simplifies the way you manage security across-the-board because it is a standardized environment rather than having people manage applications any way they want, with all different kinds of protocols, and user databases scattered everywhere, managing access security everywhere and having application downloads occur everywhere. With IMS you have an organized core network, an ordered way to manage user identification, authorization and application access. So in this sense, just having things standardized is helpful in terms of security."

Bezille elaborates: "Therefore, our approach is first to accept the standards. It's very important. We saw an initiative three years ago about converging things and easing access to call resources and so on. But the fact is that it was not really standardized across the board. It was not even standardized for one type of access, to be honest. Now you see that standardization is ongoing for the core network and not for one type of access only but for multiple types of access. You have IMS 3GPP in wireless and you have TISPAN for fixed networks, but the TISPAN next-gen architecture incorporates IMS concepts but does not use them exclusively, so in a sense you can say that those different standards are converging. You see that as well in cable networks, where the standard is called PacketCable MultiMedia [PCMM]. This standard is also converging with TISPAN and IMS 3GPP. For the first time you see a real convergence in the standardization of these architectures, so one of Nortel's main strategies is to provide standards compliancy and interoperability proof points."

"Okay, you could say that this is all just marketing," says Bezille, "but we sponsored and participated in the GMI 2006 [Global MultiService Forum Interoperability 2006] event, which conducts tests of multi-vendor interoperability to make sure they can achieve Fixed Mobile Convergence [FMC] and support the IMS service framework. With five Internet operators and multiple IMS vendors, it was the biggest IMS interoperability testing event for years, providing close to 100 different interoperability testing scenarios involving IMS applications, such as IMS with non-IMS users, IMS users on one network with IMS users from another network. It was very broad. Nortel actually funded a large part of it, and it involved Acme Packet, BT, Cisco, Empirix, ETRI, KT Technology Labs, NTT, Sonus, Verizon, Vodafone and others. But the point I'm making is that the first aspect of an IMS security strategy really involves standardization because that is a cornerstone for things being secured, talking the same language, respecting the same set of interfaces and the same mode of protection and security. So one important aspect of IMS is bringing a centralized way to authenticate and authorize end users."

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is authenticated and authorized in the same way," says Bezille. "At the same time it simplifies the end user's life, but it's mainly ensuring a higher level of security."

What Bezille said sounded good, since there could be concern about the actual security of being automatically logged on when a person moves from one device to the next.

I then asked Bezille how an equipment vendor could ensure security within the core network.

"There are different aspects of that," says Bezille. "The challenge centers on providing security when the user exercises the capability of going from one type of access to another, yet staying on the same call. So, you might first use your laptop and then the fixed phone or perhaps your cellular phone. These are not brand new scenarios for us, we doing that today, such as the Orange Business Together service that integrates your mobile phones into your office network. Our technology is such that business people can access a set of services from their laptop, but they can also access them from their mobile phone in a consistent way too. Or, when they receive a ring tone when they receive a call, for instance, they can get their devices to ring at the same time or to ring in sequence. People can program the way they want to be reached and the way the service should behave. But most importantly, all of their access is secured. For instance, one of the basic principles for security on 3GPP IMS allows for different levels of possibilities to authenticate the end user. You can do it with a sim card. You can also do it with a username and password, and so you can ensure security and the authentication across different devices and different forms of access."

"For us it's not that much of a debate because our expertise originated with our work in the enterprise space where IP is already all over the place," says Bezille. "We are coming with wireline VoIP (define - news - alert) expertise where, again, the plateau has been very high and we have grabbed a strong market share. So for us it's more of, say, 'Hey, with our VoIP experience and IP services know-how, we can propagate advanced services through converged networks, organize our own IMS solutions that can deal with wireless access, as well as wireline and cable'. So it's not a matter of trying to extend mobile expertise into an IP world. We already have expertise, technology and very specific functionalities we have created and tested in the VoIP market. And we have devised some innovative functions in this domain relating to security. For instance, in the VoIP network we can already intelligently evolve both end users and the network. Say that they started with a non-secure network for some reason; our solutions have specific features where we can migrate the users and the whole network into a fully secure network without service interruption. It's important to be able to evolve your customer and enable a smooth migration into a higher-level security architecture. There are some ways to maintain ease of use from the end user's perspective, but at the same time to improve security and standards compliancy, such as using an IPsec-based VPN."

I was curious as to whether this security solution is automatically implemented in newly-deployed IMS networks.

"It depends," said Bezille. "IPsec normally yes, if your system is compliant. There's a functionality we call Flex Mode which can be used to move some nodes or end users from non-secured behavior to secured behavior. This is a function of IT that we put in place on our own solutions."

"Of course, there are some situations where network operators realize they need specific functionalities that are not yet offered and so they contribute to the standard for the next versions," says Bezille. "So you'll see an initiative like A-IMS [Advances to IMS], made by Verizon and a couple of other contributors, where they recommend a kind of improvement to the standards and one part of this improvement is linked to the security aspects of IMS. And you see some other initiatives from other vendors as well as many operators. So you can expect that the security aspect is evolving into the standard for IMS as well. Much of this security is not just linked to the core itself but is linked to the end user. Everyone must work hard to ensure that the end user, going from one type of access to another, still enjoys secure communications. Consider the multiple devices that can now be used by one user to connect to an IMS network. It increases the complexity and difficulty of network security and so on. But, having laptops and all kinds of devices trying to connect to the network forces providers and enterprises to be much more careful with what they use and to determine if they are protected at the end user device as well. There are ways to assess VPNs and do security so we can ultimately have some policy enforcement for the end user device. We can have it accept and work with specific firewall software that we want to see on their device and so on. Technology originally used by enterprises to make sure that all their laptops were fully secure has led the way to service provider and enterprise solutions that allow for an additional level of control, security-wise, for various other end user devices."

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case study

Manage Your Clients, Not Your Platform

by Erik K. Linask

Headquartered in Miami, Ondis' (news - alert) strives to provide a turnkey approach with minimum investment to companies and individuals that want to enter the telecommunications business. Initially, its strategy was to provide a US telephone number to its clients, who, then, can then make local calls within the North America on a broadband connection without being hit by high international calling rates. For customers that regularly make international calls, Ondis "OnCall" provides unlimited calling for a flat monthly fee. With "OnCall," customers call each other from anywhere in the world.

Ondis Networks is a combination Internet telephony service provider (ITSP) and an application service provider (ASP), with a mission to provide its clients with a proven turnkey business platform that allows them to quickly capitalize on their strategic assets in the fast growing telecommunications market. Naturally, Ondis, like most companies, finds the time it spends with its clients and prospects most valuable.

The Need

When Ondis first launched its consumer VoIP operation back in 2003, it had a lot on its hands and would have preferred to focus its attention on clients, rather than on deploying and managing its network and the latest applications and technologies. The company had already developed its unique broadband telephony offering, but wanted a hosted platform that was flexible enough to grow with the company and could offer the most advanced services and applications to meet its customers' changing needs.

The Solution

After considering competing offerings, Ondis opted for Solegy, (news - alert) based largely on the depth of experience of the management team and a consensus that Solegy could best help Ondis expand its service offering into prepaid and value-added products.

As a provider of a hosted VoIP infrastructure and software platforms, Solegy excels in just this scenario. Solegy enables service providers to develop, deploy, manage, and charge for services and applications across multiple networks in a hosted environment, without the worry of managing and upgrading services and technologies. Thus, services providers are free to focus on their core businesses.

Solegy's software-based platform, ServicePDQ, enables service providers to realize competitive differentiation quickly, cost effectively, while future proofing the network by accommodating for anticipated evolutionary network enhancements.

"Solegy knows where the industry is going and is constantly innovating and adding new features," said Danny Kattan, managing director at Ondis Networks. "Of course, we had the option of creating our own platform, but when you go that route, there are so many issues to deal with between the capital, staffing, monitoring, troubleshooting, and so on."

Simply being able to avoid these difficulties is reward enough for Ondis, which is pleased with its decision to use Solegy's hosted and managed platform. Solegy handles the constant monitoring, ongoing testing of new applications and software, and is always looking for an opportunity to introduce new, value added products and features.

Ondis uses Solegy's SOHO Broadband solution, which enables advanced broadband VoIP solutions to be deployed quickly and easily. Solegy provides Ondis with broadband telephone services over an IP network in a hosted environment, so Ondis can dedicate its resources to other projects. Solegy's softswitches are located in teleco hubs that can connect directly to major IP backbone providers. Solegy's solution converts existing broadband connections into an access network for residential and business telephony services all over the globe.

To complement the telephony solution, Ondis is using Solegy's Web Services to power its customer portals. Through the WS engine, Ondis provides its clients a comprehensive portal that allows for the management of their businesses and products, including customer account information. Through the WS, Solegy enables Ondis to customize the Web applications necessary to meet its customers' needs, which can all be done quickly and easily through an application programming interface (API).

Why Solegy?

One of the reasons why Ondis finds Solegy one of the best solutions available is because of the pricing plan. Ondis offers its products with no setup fee and found, through Solegy, a platform that was compatible with this economic model. Ondis pays per minute used, instead of a base rate with minutes added on top, and did not have to pay any set-up fees. "We don't have to pay per brand or per carrier," Kattan said. "That means a lot to us, with more than 50 brands on the platform and ten carriers in Latin America, Europe, Asia, Africa and the US."

Solegy's CEO, Eric Hernaez, believes that IMS is the first technology capable of bridging the gap between existing telecom services and to the next generation of IP-based networks.

Ondis also feels comfortable relying on Solegy because of the attentive service Solegy provides regularly, including being treated as a partner. With offices in New York, San Jose, Toronto, and Manila, Solegy is able to provide support at all hours.

"Solegy is always there for us," explained Kattan. "We can make one call and immediately get on the phone with our account engineer who understands both the industry demands and our needs."

What the Future Holds

Initially, Solegy was contracted to assist Ondis with a platform to handle prepaid calling minutes and plans. From there, the Solegy platform and Ondis service evolved to localizing international calling minutes. Currently, the two are working together to position Ondis as a calling card platform provider based on ServicePDQ platform.

With the Solegy team constantly testing and creating new services and applications, Ondis is looking forward to what the future holds. With the industry already focused on emerging technologies, such as IMS and IPTV, Solegy is already ahead of the curve. CEO, Eric Hernaez, believes that IMS is the first technology capable of bridging the gap between existing telecom services and to the next generation of IP-based networks. Solegy has been running IMS applications for over seven years and is constantly testing and integrating new technologies to strengthen its value proposition.

"Working with Solegy, who can handle all the technical aspects of the platform, while providing us with a turnkey platform so that we may concentrate our time and resources in selling and servicing our clients, is priceless," says Kattan.

Indeed, it has been three years since the inception of this relationship. During that span, Ondis has conducted, and will continue to conduct, semi-annual research to ensure it is using the best solution for its evolving needs. Each time, Ondis sticks with Solegy.

Juniper and NEC to Merge Internet with Cellular

By Johanne Torres

Juniper Networks (quote - news - alert) has entered into an agreement with NEC in order to develop IMS-based Fixed/Mobile Convergence (FMC) systems for wired and wireless service providers. The move will enable the Internet and the cellular worlds to merge.

The companies decided to join forces to offer converged services over a single IP network by combining NEC's products for fixed and mobile networks with Juniper's carrier-class IP core and edge routers and security products.

"By working to combine NEC's advanced products and solutions for fixed and mobile networks with Juniper Networks carrier-class IP routers, Broadband Remote Access Server, and security products, we expect to come one step closer to merging the Internet with the cellular world," said Botaro Hirosaki, Ph.D., executive vice president of NEC.

Juniper and NEC (news - alert) will collaborate in the enhancement of their standards-based interfaces so that they can then conform to architectural standards which are defined by the 3rd Generation Partnership Project (3GPP) and Telecoms & Internet converged Services & Protocols for Advanced Networks (TISPAN) standardization bodies.

"This initiative reinforces our commitment to partnering with industry leaders, such as NEC, to deliver open, agile and customizable solutions to enhance the value of next-generation networks," said Kim Perdikou, executive vice president, Infrastructure Products Group and general manager, Service Provider Business Team, Juniper Networks. "Together, Juniper Networks and NEC are working to make it easier and more cost-effective for service providers to offer services such as VoIP, gaming, videoconferencing, messaging and other content sharing applications over a common IP network infrastructure."

http://www.nec.com
http://www.juniper.net

Ericsson to Supply Converged IMS Solution to CYTA in Cypru

Ericsson (news - alert) has been selected by CYTA, the leading operator in Cyprus, to provide its IP Multimedia Subsystem (IMS) solution for the implementation of one of the first truly converged IMS networks in the world. In line with CYTA's Fixed/Mobile Convergence (FMC) services roadmap, the Ericsson IMS solution will enable CYTA to offer its residential and business customers truly converged services.

"By introducing IMS into CYTA's network, we will be able to offer innovative, truly converged services to our customers, regardless of the access they use," said Nicos Timotheou, CEO of CYTA. "At the same time, we will bring down time-to-market for introducing such new, enriched services."

The Ericsson IMS system is an end-to-end solution, which gives operators immediate revenue opportunities when evolving to all-IP operations. It enables seamless access to a wide range of new multimedia services across both fixed, and mobile networks. Ericsson's IP Multimedia Subsystem (IMS) includes a converged IMS core infrastructure, as well as application servers and service enablers for common functions that can be reused for multiple fixed and mobile applications.

The contract with CYTA is a turnkey project, which will be delivered in five stages over the next two and a half years. As part of the contract, Ericsson will also provide a full suite of professional services, in the areas of Business Consulting, Education Knowledge Transfer, Network Design, Implementation, as well as Multi-Vendor Verification.

http://www.ericsson.com

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Cedar Point Communications Creates Europe Subsidiary

Cedar Point Communications, (news - alert) the leader in integrated VoIP switching technologies for the cable and telecommunications industries, announced the formation of a wholly-owned subsidiary dedicated to the European market, and the hiring of telecommunications and networking veteran Michael Brunsveld as Managing Director, Europe.

Cedar Point Europe Communications GmBH, headquartered in Meersburg, Germany, will oversee all activities involving Cedar Point, its European partners, and its customers in conjunction with sales and deployments of the company's SAFARI C3 Multimedia Switching System. Brunsveld, who joins Cedar Point after more than a decade with Nortel Networks Germany, will be immediately responsible for all of Cedar Point's business development activity in the European market.

"In our early activity in Europe, cable system operators have shown tremendous interest in the simplicity, cost-effectiveness and scalability of SAFARI C3," said Andy Paff, president and CEO of Cedar Point Communications.

Cedar Point's SAFARI C3 Multimedia Switching System, the only totally integrated carrier class VoIP switch that incorporates all of the components that make up the voice switching infrastructure, provides SIP-based features and seamless evolution to an IP Multimedia Subsystem (IMS) architecture. SAFARI C3 provides superior performance and reliability, significantly reducing capital expenditures, system integration and operations costs for network operators offering telephony services while increasing network integrity, security and privacy.

SAFARI C3 is PacketCable qualified and future architected to fit within an IMS core network infrastructure, allowing network operators to leverage their initial equipment investment in voice as they introduce such services as video telephony and fixed/mobile applications. New applications can be integrated into SAFARI C3 or can be accessed via third-party application servers.

http://www.cedarpointcom.com

Sonus Solutions Receive Acceptance RUS/RDUP

Sonus Networks (news - alert) announced that the Technical Standards Committee (Telecommunications) of the Rural Utilities Service/Rural Development Utilities Program (RUS/RDUP), a division of the United States Department of Agriculture, has granted "RUS/RDUP Acceptance" status to key elements of Sonus' IMS-ready architecture, including the GSX9000 Open Services Switch, PSX Call Routing Server, SGX Signaling Gateway, and the Sonus Insight Element Management System. The RUS/RDUP acceptance helps Sonus reach a broader market of network operators by enabling third-party resellers to sell Sonus' solutions to RUS-funded service providers.

"RUS/RDUP acceptance for Sonus' solutions provides rural carriers with the flexibility to invest funds in a field proven IMS-ready core infrastructure," said Steve Edwards, Chief Marketing Officer, Sonus Networks. "In addition, the RUS/RDUP acceptance is a critical step for our Company, as it helps to expand our strategic reseller relationships to focus on addressing the rural telecommunications market in the United States."

RUS/RDUP provides funding to Rural Telephone Companies for telecommunications initiatives in rural communities throughout the United States. These initiatives include financing construction, procurement of equipment, and enhancements to networks.

http://www.sonusnet.com

Huawei Adds Sylantro to Recipe for IMS

By Erik K Linask

New CEO Marco Limena and Sylantro (news - alert) can finally share some of their excitement, as network solutions provider Huawei Technologies has officially announced it will incorporate Sylantro's application feature server into complete IMS solution, IMS Core 3.0.

"We have selected Sylantro as the most important application feature server in the market based on a comprehensive evaluation of their Synergy platform's features and scalability, as well as the company's ability to support our business," said Mr. Zha Jun, director of Huawei's IMS product line.

IMS is an evolution. It is about the build-up of service provider architectures and core network capabilities, which requires significant investment from the service provider. Sylantro's Limena says this partnership is all about decreasing time to market and increasing ROI for customers - which will inherently help increase the adoption of IMS technologies, which is what this is all about.

Huawei will incorporate both of the Sylantro platform's two main features - the Synergy feature application server and the Synapps Web Services Interface.

Huawei (news - alert) has historically been cautious in entering technology partnerships, but Limena credits Sylantro's ongoing relationships with China Unicom and China Netcom as being influential in securing interest from Huawei. Sylantro is also now opening its own facility in China, underscoring its commitment to the region. In fact, Sylantro and Huawei are said to already be working on deployments with several customers in both Europe and Asia.

"We are proud to have been selected by Huawei," said Limena. "Huawei is a leading technology provider in the region, and they will take us to market."

Having announced the arrangement, Huawei is not wasting anytime in showing off its new partner. Tomorrow, the firm has a scheduled meeting with 80 of its top customers and partners, at which Limena has been invited to speak to the customers about the Sylantro technology.

Sylantro technology will also be featured in the Swiss market, where Microsoft and Swisscom have just announced a joint initiative to deliver converged communications services for the SMB market, which will include Microsoft's EVS (Enhanced VoIP Services) Solution and Sylantro's application server - which is the only one that has been integrated with Microsoft's solution.

http://www.huawei.com
http://www.sylantro.com

HUAWEI

SYLANTRO

TTI Telecom Service Assurance Solutions Support IMS Networks

TTI (Team Telecom International), (news - alert) a global supplier of OSS to communications service providers, announced that its Netrac Next Generation Service Assurance Solution now has the capability to support IP Multimedia Subsystem (IMS) networks. The OSS product suite is tailored to function over the new network structure, as well as within its associated business model. This solution leverages TTI Telecom's current offering in supporting network transformation to IMS.

TTI Telecom's solution is an important tool in enabling service providers to extract maximum value from the IMS rollout. The key benefit IMS networks will bring to providers is the ability to offer a truly high-value service, including a diverse array of content and services, and flexibility in network access. Until now, the IMS business model ran the risk of a major setback in its initial entrance to the market, as many plans outlining its rollout overlooked the deployment of mechanisms to guarantee service quality in its early stages. Furthermore, customer demands on service quality from IMS networks are expected to be particularly strict, given its goal of premium QoS, regardless of access technology or location. The availability of a proactive Service Assurance solution which supports IMS networks allows service providers to eliminate this risk and accelerate adoption in the market.

"It is becoming clear that a proactive solution will be most appropriate for IMS networks," commented Avner Amran, VP Marketing and Business Development at TTI Telecom. "If service providers aim for a higher value business model, customers are going to expect premium service quality. A successful IMS deployment requires OSS which can prevent service degradation and network downtime before the customer experience could be affected."

http://www.tti-telecom.com

Tekelec Deploys Enhancements for EAGLE 5 Integrated Signaling System

Tekelec, (news - alert) a developer of high-performance network applications for next-generation fixed, mobile and packet networks, announced it has deployed upgrades for the EAGLE 5 Integrated Signaling System (ISS). The new enhancements give operators greater flexibility when migrating their signaling networks to a more cost-effective IP multimedia subsystem (IMS) infrastructure and enable greater network capacity to handle increased signaling traffic as mobile operators continue the transition to 3G.

Sigtran, which enables signaling system 7 (SS7) signaling over IP networks, is considered the stepping stone to IMS. It enables operators to move their SS7 traffic over to IP first, and then use the same infrastructure to support session initiation protocol (SIP) signaling in an IMS environment. The upgraded EAGLE 5 ISS now can support all three major types of Sigtran - M2PA, M3UA, and SUA - to enable operators' graceful transition to IP and, eventually, IMS.

The enhancements also include support for up to 2,000 provisioned links, up from 1,500 links. Operators now can scale their EAGLE 5 ISS to handle the increasing signaling traffic caused by migration to 3G. Additional upgrades include expanded global title translation (GTT) performance and new integrated data acquisition features that allow operators to collect key Sigtran signaling statistics for revenue and performance management applications.

http://www.tekelec.com

Teligent Chooses Tektronix' Spectra2 for Testing Voicemail and IP-Based Switching

Tektronix (news - alert) has announced that Teligent, (news - alert) a global supplier of value-added services to telecommunications carriers, has chosen the Tektronix Spectra2 portable diagnostics platform and conformance test suites to provide on-site testing and analysis of its voicemail and IP-based switch services in 3G/IMS (IP Multimedia Subsystem) compatible next-generation networks.

The Tektronix Spectra2 hardware and conformance suites provide Teligent with highly integrated, portable solutions that allow the company to simulate load conditions, as well as monitor and test voicemail and SoftSwitch implementations. The Spectra2 solution directly addresses Teligent's need to test legacy PSTN and converged network signaling and network elements from a single, comprehensive multi-user platform.

Teligent is using the Spectra2 ISUP (ISDN User Part) capability to validate voicemail signaling and media performance. The Spectra2 generator application allows bulk call generation of ISUP Signaling with associated media, and also supports low- and high-speed SS7 signaling links (SS7 over ATM, HDLC and SIGTRAN). The Spectra2 SIP and Megaco (Media Gateway Controller) test cases provide Teligent with the ability to analyze SoftSwitch performance. In both cases, all load generation, monitoring and testing functionality is provided by the portable Spectra2 hardware and software.

http://www.teligent.se
http://www.tektronix.com

Intervoice and BEA Systems Deliver Global IMS Solutions

BEA Systems, (news - alert) developer of enterprise and communications infrastructure software, and Intervoice, a provider of converged voice and information technology, announced the integration of Intervoice Media Exchange Enhanced Services Platform and the BEA WebLogic SIP Server, a converged Java-IMS-SOA service creation and delivery platform designed to promote adoption of IMS (IP Multimedia Subsystem)-based communication services around the world, including voice mail, voiceSMS, and video mail.

The joint BEA and Intervoice offering combined with its successful interoperability testing with Huawei Technologies' IMS infrastructure, represents a major milestone in the two-year partnership between BEA and Intervoice. The joint offering is designed to help facilitate global delivery of IMS-based applications and lead the way for other next-generation solutions. Multi-level integration and interoperability of standards-based components is a critical enabler of IMS, early adoption of which was challenged by traditional "silo-ed" approaches to service delivery.

Intervoice (news - alert) and BEA share a commitment to delivering a world class user experience, increasing productivity, and driving up ARPU with Network customers as well as increasing productivity and reducing costs in the customer contact center environment. BEA and its BEA WebLogic Communications Platform product family feature prominently in Intervoice's Media Exchange offerings. BEA WebLogic SIP Server, the industry's first converged Java EE-SIP-IMS application server and a key component of the BEA WebLogic Communications Platform, is the integration point for the interoperability of the Intervoice Media Exchange and Home Zone platform.

http://www.bea.com
http://www.intervoice.com

Delivering on the Value of Convergence

by Grant F. Lenahan

IMS is the future. Consensus seems to be emerging that IMS is the basis of next-generation IP-based networks, and that the investment will happen this time around. Yet another consensus seems to be emerging — belatedly in my opinion — that IMS must co-exist with both legacy networks and other IP-based constructs, such as web services and even quasi peer-to-peer SIP networks.

> While technologically possible, for business reasons it's best done through incremental change.

This may seem obvious, yet the last three years or so have been filled with questions of, "will IMS happen?", "when?" and much standards activity that virtually ignores other protocols (other than SIP that is) and paradigms. For instance, service broker standards have so far ignored IN and web services. "If it's not SIP, we won't manage conflicts" seems to be the message. This is an odd reaction, since Telcordia has been delivering an "SS7 SCIM" since the early 1990s. Basic service interaction isn't technology-dependent. In fact, it is even more critical across technologies.

So, are we beginning to build the next technology silo, called IMS? We better not.

I just spoke at a European-based industry conference that draws top-shelf speakers (plus me). The conference itself was quite interesting but more importantly it represents the closest thing to conformity for the army of bright, innovative radicals intent on overthrowing today's telecommunications paradigm using VoIP, "free voice", peer-to-peer and other pure Internet technologies. IMS concepts like control, tiered service and granular charging are not only overlooked, they are disliked. This is too bad. Control and network-based intelligence and data can be used for good. It is necessary to enable the truly global routing of sessions. It is necessary to support some latency-sensitive services. And customers may even choose it to provide better security and easier user experiences, areas where today's Internet is, at best, suspect. As proof of this, remember that the Internet's own routing directory — DNS — is a network-based service, not a peer-to-peer one. Just because historical telephone pricing (often done by national post offices, I'll remind everyone) left something to be desired, is no reason to throw the baby out with the bathwater.

What does this have to do with convergence and the migration to IMS? A lot, actually. It shows that somewhere between three and four technology paradigms will co-exist for many years, and thus our thinking can't be "when will IMS take over?", nor even "which supplier can build me the best IMS infrastructure?", but rather "how do I build a flexible service creation environment that can enable services on IMS networks, legacy networks and Web 2.0 networks and interoperate across them?"

Our industry does not get paid for technology. It gets paid for providing services to customers. The more services and the more customers, the more we make. This sounds so simple as to be meaningless but our collective actions indicate otherwise. Every time we build a technology silo — even if we name it IMS and proclaim it the end of silos — we limit both the number of customers who can receive (and thus pay for that service) and the number of services we can possibly develop in each silo. So silos cost money and reduce revenues.

Today there are from 2 to 3 billion PSTN and Mobile IN/SS7 based phones. Because heavily compressed circuit-switched voice (such as GSM) uses scarce and expensive cellular radio spectrum more efficiently than VoIP, good old CS cellular will continue to grow for years. So we can comfortably count on most phones being IN, not IMS, for at least a decade, and a significant subset of all users for even longer — much longer.

Today there are also hundreds of millions of users of Skype, Yahoo, and other web-based voice and messaging services some of which use SIP but do not follow the IMS model. There is also huge growth in component services, and digital content on the web, and most of the web is comfortable using web services like SOAP (which could include Parlay-X). The web is also a cornucopia of innovation and content that can, and must,

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become part of services created in communication providers' service creation paradigms. If not, they will be fighting with one hand behind their collective backs.

So this says that the future has at least three basic components — not just IMS. It certainly has IMS, steadily growing. It has the legacy networks, not going away any time soon, and representing huge potential. And, last but not least, the growing set of web players, web content and web development methods.

Years ago, the industry pursued wholesale technology shifts and tolerated closed, single-vendor service environments. We cannot re-make those mistakes. We need to think of large chunks of IMS as a modular, standards-based Service Delivery Platform (SDP). We need to make those service enablers — such as charging, policy control, subscriber preferences, interaction management, mobility, etc. — available to old networks and new, IMS and web. Only that way can we deliver the most services to the most customers with the simplest interoperability between all users and technologies.

Some day, maybe we'll start thinking about service functionality separately from the underlying network technology. That day we'll be on the road to real success. I guess that's why my I recently presented a talk entitled "*IMS form vs. function*". Is your business focusing on the functions you want to provide to your customers?

Grant Lanahan is vice president and strategist, IMS Service Delivery Solutions, at Telcordia Technologies, Inc. (news - alert) *For more information, visit http://www.telcordia.com.*

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analyst's corner

The Importance of IOT (Inter-Operability Testing)

by Ronald Gruia

Even though the architecture is standards-based, we believe that interoperability issues are still arising as distinct equipment makers opt to implement their offerings in slightly different forms. Obviously, the lack of interoperability has a negative impact on the "pick the best-in-class vendor for each element" strategy, which might take sometime to become a reality. Systems integrators given the task to make different vendors' equipment work together within the same network will face a difficult task.

In addition, the original IMS architects envisioning a single administered IMS domain in which the carrier had the full control. Nonetheless, there have been instances over the past year in which single operators had to deal with multiple instances of IMS deployments. Furthermore, the need for integration of separate IMS networks will only increase given the recent uptake in carrier consolidation and mergers and acquisitions. Therefore, operators are facing situations which contravene the original IMS intent and the need for IMS-to-IMS interworking will increase. Currently, this aspect of IMS operation is not addressed in the standards; however, in the future this is expected to be one of the key factors to be tackled.

From an industry-wide perspective, vendors and service providers have been engaged in various IOT (Inter-Operability Testing) events championed by a variety of different organizations. Some of these include industry associations such as the MSF (Multiservice Switching Forum), the GSM Association (Europe, Asia, US) and the IMS Forum. These groups have been created via partnerships between some carriers and IMS infrastructure vendors. The MSF and the IMS Forum are two organizations that have been actively engaged in IOT. The GSM Association also had some interoperability initiatives in the UK, Europe, Asia and the U.S.

A recently completed Frost & Sullivan survey involving 53 fixed, mobile and cable operators around the world identified, among other details, the top factors inhibiting the growth of IMS. These caveats included the adjustment required by operators to the IMS business case, the work still in progress in the standards arena and the fact that IMS is not as "open" as advertised. Interoperability has been another hot button for IMS, as the promise of multi-vendor systems talking to each other is proving to be quite a challenge.

The first of the GSM Association's Interop initiatives was announced on September of 2005 and involved vendors such as Ericsson, Nokia and Siemens. TeliaSonera, Vodafone, Orange and KPN developed hubs to support IMS and achieved IMS IPv6 systems interoperability with IPv4 systems. The next iteration involved the above three vendors plus Lucent, LG, Motorola, NEC, Samsung and Sony-Ericsson. The service tested in this case was video sharing, in an initiative led by TeliaSonera. This non-commercial second iteration was announced on February 2006 as a follow-up to the European IMS trials originally announced by the group in September 2005.

The MSF held in October 2006 its Global MSF Interoperability (GMI) event. The main goals of the biennial event were three-fold: 1) provide the industry with real feedback on IMS interoperability, 2) offer feedback on MSF Implementation Agreements (IAs) and 3) supply the industry with first specification to describe physical implementations of IMS-enabled devices in real-world deployment scenarios.

The two-week long GMI event was simultaneously held at five carrier labs: BT, KT, NTT, Verizon (quote - news - alert) and Vodafone (news - alert) and at the University of New Hampshire, a well-known

testing environment for various industry IOT events. The interoperability tests of 26 vendors' equipment involved applications (e.g. FMC), IMS security, billing, interoperability and QoS. The trial tested multi-vendor interoperability within the IMS service framework, and validated the MSF Release 3 Implementation supporting the industry's TISPAN and 3GPP IMS standards.

Another event is planned for January 15, 2007; namely, the "IMS Plugfest for Applications and Services", to be held by the IMS Forum, a multi-vendor organization devoted to the advancement of standardized, interoperable IMS services and solutions. Some of the current members include Alcatel, Cisco, Cantata (Brooktrout), Convedia (RadiSys), CopperCom, Ditech Networks, Empirix, Juniper Networks, MetaSwitch, NewHeights Software, Newport Networks, NewStep Networks, Reef Point Systems, Sonus Networks, Sprint Nextel, Sylantro Systems, Tekelec, Ubiquity Software and UT Starcom, among other companies.

The IMS Forum Plugfest testing will be conducted at the University of New Hampshire Inter-operability Lab (IOL). The main objective of the event is to establish agreed-upon requirements and criteria for IMS applications and services interoperability. What is distinctive about the IMS Forum's event is that it represents a new approach to services testing which is access-agnostic and can encompass fixed, mobile and cable operators. More importantly, the IMS Forum has an entire roadmap that is planned, and this event represents just one milestone in that roadmap.

Besides the IMS Forum, MSF and GSM Association, there are a couple of other organizations also engaged in some areas of IMS interoperability testing. They are MobileIGNITE and the OMA (Open Mobile Alliance). MobileIGNITE is the newest of IMS-related forums, having been founded as an independent organization in November 2005. Prior to that, most MobileIGNITE members were part of an internal partnership program focused on FMC and formed by Bridgeport Networks. From an IMS perspective, the IOT focus of MobileIGNITE is on applications such as IP Centrex (SIP) to mobile network interworking including SS7 and IMS, as well as IMS-based VoIP over WiFi circuit switched cellular voice. The OMA (Open Mobile Alliance), formed in 2002, has as its main goal the standardization of architectural issues related to mobile data services. From an IMS standpoint, the main initial focus was to develop the Push-To-Talk over Cellular (PoC) Release 1.0 standard, which was launched on June 2006. The OMA will be focusing on PoC client IOT.

Not Competition, Co-opetition

In order for these forums to make valuable contributions, they all have to be able to deliver valuable results, well-documented testing processes as well as interoperable solutions to the service provider community and the industry as a whole. These efforts certainly represent steps in the right direction toward solving the IMS interoperability challenge.

However, it will be desirable to see organizations such as the IMS Forum, MSF, GSM Association, MobileIGNITE and the OMA collaborating with each other as they strive to push the envelope in multi-vendor interoperability testing. The benefits of the closer alignment between these groups are manifold. By working closer together, these forums can divide and conquer, avoid duplication of effort and instead focus on different areas that need IOT. More importantly, by brining several players into the fold, a collaborative effort between these organizations can also prevent the testing of "semi-proprietary" solutions and architectures that are against the very "open standards" nature of IMS.

We have often witnessed that intense competition in some nascent areas can sometimes kill these market opportunities before they bear fruit. Hence, for the sake of better development of the IMS market, the cooperation between these efforts would be very worthwhile.

IMS Changing the Industry Forum Landscape

In the legacy AIN world, network equipment manufacturers rarely provided interoperability with other vendors' gear. However, the disaggregation of transport, control, and application driven by IMS enables operators to source best-of-breed suppliers and products at each network layer. Hence, the NEVs have to provide integration and guarantee interoperable multi-vendor solutions to their service provider clientele.

Therefore, the advent of IMS has also impacted the industry forum setting, since these groups must now provide operators and vendors alike with ample opportunities to test, implement and run multi-vendor environments rather than just offering theoretical "best practices" guidelines or sponsoring closed solutions.

Last, but not least, IMS enables competition among all types of services providers, as it makes no distinction between DSL, fiber, cable or wireless broadband access. Differentiation in the future will come from consumer and business applications and services, not from 'locked-in' network architectures.

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ims industry perspective

IMS & SOA – Driving the Future of Telecommunications

by Mike McHugh

The IP Multimedia Subsystem (IMS) framework is supposed to take over the world and solve the challenges of service providers. It offers a framework structure which operators can leverage to deliver new, compelling, revenue-generating multimedia services. It will provide a service creation framework that will allow a very large ecosystem of non-telco-savvy application developers to rapidly create applications and deploy them to various types of IP and telecom networks serving millions of subscribers. It will allow companies to make their workers more productive, give central control of telephony and allow communications to be based on contacting a person, not an army of disparate devices and phone numbers. It allows for the unification of wireless, wireline and wide variety of communication and collaboration services like never before.

A common service delivery platform (SDP) architecture gives services providers the ability to deliver next-generation multimedia services across multiple network access technologies, all the while providing an evolutionary approach that enables the service provider to migrate from today's existing legacy networks to the IMS networks of tomorrow. Agnostic to network type, a common SDP bridges the networks of today and tomorrow by evolving the underlying network model to a service-oriented architecture (SOA). This SOA model decouples underlying network resources from service development and delivery. Services are then allowed to evolve independently of each other. This simplifies service creation, composition and delivery and should in turn enable the service provider development community to innovate rapidly — mostly because the developer is not required to understand the underlying network technology on which the service is built. This move to an SDP built on SOA principles is a very big first step toward IMS.

As has been discussed in several previous articles in this magazine, service providers are facing new sets of challenges. Chief among these is the imperative to offer new compelling, revenue-generating services that capture subscribers' loyalty — and do so in a cost-effective manner. Service providers' networks are converging and they must figure out how to integrate these new compelling services, which will consist of traditional voice services, Web services offerings and real-time, person-to-person multimedia services, in a meaningful way across multiple network types.

SDP enables re-usability of network resources such as group list management, location, presence and more. With SOA-based composition and orchestration technologies, these service building blocks can be leveraged by third party developers and the service provider to build new service capabilities. This innovation demonstrates what is likely to be one of the first steps in the evolution towards IMS with an SDP built on SOA principles. The focus will be on the integration of communication into business processes.

One example of such a case is when Web services are exposed to users of IMS. This model allows Web services (say, within an IT domain) to use an IMS network to locate and interact with other Web services that are also exposed as users of the IMS network. Use cases of this model include the User Agent Configuration, or the use of SIP (Session Initiation Protocol) and XCAP (XML Configuration Access Protocol) for presence and group list management. In this latter case, SIP can be used to establish and manage access to XCAP-based Web services. It's entirely possible for other types of services to be exposed in a similar fashion, and is of particular interest where services are likely to be mobile. A user device, for example, that exposes and consumes Web services is easily handled in this way and offers the benefit of separation of the control messages from the payload, allowing optimization of access network usage. It is also reasonable to expose content services in this way, such as mobile location services, data services or other services. In this way the IMS is simply used as a request broker between processes.

It is foreseeable in the long term that owners and operators of both enterprise and commercial networks will be required to support increasingly integrated information communications system infrastructure. Within this integrated communications system infrastructure, Web service implementations support SIP, which is used to locate service interfaces and manage sessions between providers and consumers. Orchestration and composition of service interactions is handled at the level of the SIP intermediaries, supplemented by a UDDI (Universal Description, Discovery, and Integration) infrastructure for publication and discovery of services described by UDDI and WSDL (Web Services Description Language). A UDDI registry complements the mobility features provided by the IMS architecture. Note that Web services is but one paradigm applicable to the proper application of SOA principles to the SDP.

There's little doubt that the future of IMS is bright. IMS provides a superior infrastructure that enables the delivery of next-generation multimedia services through flexible responses to market trends. However, successful carriers will first need to implement a common SDP built on SOA principles. The IMS really represents the standardization of an SOA designed for real-time, large scale, secure and reliable application usages. The principles of the IMS are drawn from the experience and operational requirements of the telecommunications industry and draw on the most successful technologies and strategies that have propelled the Internet to its place at the heart of modern global information systems.

Mike McHugh is vice president and general manager, BEA WebLogic Communications Platform, at BEA Systems. (news -alert) For more information, please visit the company online at http://www.bea.com.

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BUYERS GUIDE

The IMS 2007 Buyers' Guide is a compendium of companies from around the world. If you do not see your company's name on this list or know of a company that should be on this list, keep in mind that only those companies that have followed TMC's online submission procedure are included in the Guide. Submitting your company using our online forms makes it easy to provide information and to specify such things as an enhanced listing (a listing that stands out on bold type that will be highlighted in yellow). However, also note that enhanced listing forms received after November 1, 2006 were accepted for the online version of the 2007 Buyers' Guide only.

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http://www.forum-com.com
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Other: IMS Network Engineering

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IMS – Today and Tomorrow

by Richard "Zippy" Grigonis

It's been quite a year for IMS, the IP-based Multimedia Subsystem. With so much current interest, trepidation and hope for IMS, developers, network operators and service providers have pondered it as long and as intently as a shaman would the patterns made by tea leaves in a cup, wondering whether to fully adopt IMS or not, and, if so, what "killer app" will pay for the whole undertaking. After having done this for the past year or so, however, IMS now resembles a diviner's tea leaves less so than it does one of Dr. Rorschach's ambiguous inkblots, wherein each segment of the telecom world sees in IMS what it wants to, giving us a glimpse into the deepest recesses of the corporate decision-making process.

Some services difficult to develop and deploy in the 56K circuit-switched connection world of 1990s Computer Telephony breezed back into favor with the rise of IP Communications. Similarly, the mass production of various services in a hybrid network may be difficult for IP developers, but will be a cinch under IMS. Even so, how much will it all cost?

IMS Lite?

Not everyone is a total fanatic over IMS. For example, in the "Disruptive Wireless" blog of technology industry analyst Dean Bubley, he relates what he encountered as "analyst in residence" at the Telco 2.0 / IMS Services Brainstorm event in London, organized by STL in October 2006.

"If you're a fixed operator, or a fixed/mobile combined operator, IMS offers potential benefits, if you use the concept wisely (i.e., don't swallow it whole). . ." writes Bubley. ". . .fixed operators are much more likely to pick and choose exactly how to use the IMS functional architecture. Various speakers from BT, KPN, Global Crossing and others spoke of selecting the bits they liked, combining some elements to form 'IMS Lite', and supporting parallel non-IMS domains for things like TV."

"One thing came out clearly — IMS is not yet a viable investment for most mobile-only operators," emphasizes Bubley. "One delegate from a very large and well-known mobile carrier described it as 'a very expensive way to get simplicity' — and also mentioned that, however, they might use it to offer fixed IP telephony services over broadband (now there's a real irony. . .)"

Bubley also says that there are too many industry consortia promoting so-called standards. There are too many standards (some of which appear to overlap) and yet there aren't enough 'real' standards, in that "many gaps are still left or exact details glossed-over. (phones, billing/charging, network security, multi-identities, etc)."

To get to the bottom of things, Yours Truly conducted interviews with eight well-known IP Communications companies that have thoroughly examined both the promise and reality of IMS. Their profound ruminations follow. . .

AXIOM Systems

Brian Naughton is the VP of Architecture and Strategy at Axiom Systems (news - alert) (http://www.axiomsystems.com) a UK company firmly entrenched in the OSS space. He says: "There are various existing SDPs [Service Delivery Platforms]. IMS is considered the ultimate architecture that allows for multiple access into the network, roaming and all of what leads to fixed-mobile convergence [FMC]. But smaller carriers tend to go with existing SDPs for triple-play and aren't really interested in either IMS or FMC. They're more interested in simply an application server they can use to deploy new

services across their IP network, or they resell a service from a different wholesale provider. To them, IMS is just an application architecture to get new services out the door. Besides, IMS keeps getting modified here and there, so one could see how the conventional IP application server approach keeps moving forward, whereas IMS has had a few stumbling blocks along the way and has been playing a bit of 'catch-up'. Mobile operators, however, are becoming excited about IMS because it bridges them into fixed communications, and fixed operators are excited because it bridges their services into the mobile world. IMS does have a profit-altering effect on those operators by bringing them into new markets."

"Fundamentally, the goal for operators is to have an enabling architecture that allows them to send new services down their pipe to customers a lot quicker than previously," says Naughton. "One of Axiom's approaches is to be a sort of 'transformation tool' to get to this new world. We're seeing a lot of customers pull us into this for deployments in the near future, but for them, 'near future' means at least a year away. Still, we're helping them to get their operational environments — all the OSS and BSS stacks — to be able to react to the changes that IMS will bring about. If they get IMS right or an SDP platform right, then in a matter of weeks you're going to be chucking new services onto your service execution wall or your IMS platform, or whatever you want to call it. But it's still taking up the entire stack that sits above it, so everything needs to be there to take an order from the customer. As a result, it's still taking most Tier-1s too long to propagate any change all the way up to an order management system and then to be able to bill for it."

"Much of the investment around IMS and service platforms today concerns service creation and service assembly environments that deal with these application platforms," says Naughton. "It lets you bundle and blend services very rapidly. But what's been pretty much an afterthought is how the operations environment will manage such complex bundling and blending of service components into something that a customer can order. Even worse, how can the operator make it possible for the customer to constantly order new services that are being bolted into the network? That's really important from where we're coming from and how we're adopting the IMS 'theme'."

"Axiom is doing a lot of work with BT and TeliaSonera," says Naughton, "and some of our big customers over here, to help take this 'rapid assembly' of services concept of IMS and, through a new architecture within the OSS domain, be able to configure changes within the OSS systems and the BSS systems, which presupposes the need to understand the implications of changes in the network. Typically, there's a big development cycle to make anything happen in IT land, so what we've trying to do is to extend the scope of IMS — or at least the concept of rapid bundling — across the entire 'factory', if you like, so a service or a change can be propagated out the door without it taking nine months, a large development bill and a team of people from Accenture or whoever does your development, to be able to propagate that change out the front door."

"Many telcos are starting to complain about this," says Naughton. "They've pretty much figured out why they need IMS or architectures similar to it, and they've also figured out roughly how they're going to implement it, and now they're starting to figure out how they're going to effect change through the operations so that they can actually use it. So if I concoct a new service in two weeks and bolt it into my Connected Services Framework from Microsoft or an app server from Oracle (quote - news - alert)or whoever is playing in this space now, it may have taken only two weeks to bundle it but it takes nine months and hundreds of thousands of dollars to effect any kind of IT change to get the service out the door. That cost and that production timescale is prohibitive. So, what we're already doing for some ISPs and large telcos is to be a 'Babblefish' between the business and network domains, and we in effect allow the business guys to understand very rapidly what their network is capable of and allow them to assemble a service that they can offer out to customers, and provision it on the back-end. That's where we're going. As operators move up the IMS stack, they ask us more and more to bridge the gap to BSS and OSS. Because if you don't solve that production line problem, there's no point in having an 'all-singing and all-dancing platform' throwing out new services willy-nilly."

Because of the extraordinary depth of these interviews, the size of Zippy's article precludes its appearance in full in this issue. To read this article in its entirely, go online to the following URL: http://www.tmcnet.com/410.1

IMS Leaps into 2007

by W. Stuart Jones

2006 has been quite a year for the telecoms industry: not only did the usual suspects in the vendor and operator communities launch a plethora of global initiatives designed to spur development of next-generation mobile applications, but even the Internet players, like Yahoo! got in on the action, launching a dual-mode cordless phone that combines lower cost VoIP with traditional landline / PSTN calling.

But, more than this, reflecting on 2006 I'd argue the biggest development has to be the seismic shift in mindset around the migration to IP-based networks, now regarded as "no longer evolutionary" by Denis McCauley, director of Global Technology Research at the Economist Intelligence Unit, commenting on the Unit's survey of 395 global senior executives entitled, *Convergence Takes Hold in Enterprise* (November 2006).

The hype around IMS hit fever pitch in 2006 with promises of radically reduced OPEX and increased revenue from new and enhanced services. But cutting through the hype, what has actually been delivered and what can we expect in 2007?

This shift comes hot on the heels of communication service providers (CSPs) starting to realize that the deployment of stovepipe IP Multimedia Subsystem (IMS) solutions, the sort offered from traditional hardware vendors, does little to set them on the path to a true IMS architecture. While these point solutions provide an adequate solution to a specific problem, they ultimately lead to an unmanageable network architecture — the exact opposite of what IMS is about — and this realization, if costly for some, has started to become clear.

Interestingly, 2006 also saw an increasing number of CSPs storing user profiles in a central location, leveraging the serviced-based architecture inherent in IMS to move to combinational services, such as instant messaging and multi-voice packages, as found by the Logan Orviss International telecom consultancy (October 2006).

The Early Adopters of IMS

While the market data indicates IMS is here to stay, it is the fixed-line and cable operators who have clearly been the earliest and most aggressive adopters in 2006. For these guys IMS represents much more of an opportunity for them to create new revenue streams and encroach on the territory traditionally occupied by their wireless friends, through the provision of WiMAX, WLAN and other UMA offerings.

If we look at their wireless providers, deploying a full IMS architecture does not necessarily give them a justifiable return on investment (ROI) as many of the proposed services can be realized in other ways. Without the mythical "killer application" the business case for deploying IMS is not easy to prove, as was found in a survey of global operators wherein 54% claimed that proving ROI is a major barrier in its implementation (*IP Independence*, Loudhouse Research, February 2006). But those that maintain this approach for 2007 are set to be outrun by the fixed-line and cable operators who are doing everything they can to be the "one stop shop" for the customer.

Challenges Ahead in 2007

By far one of the biggest challenges for any CSP wishing to deploy IMS has to be establishing a watertight business case, avoiding reliance on the hype, and there is a lot of hype out there. The next step is then to select an IMS architecture that will readily and cost-effectively scale as service take-up increases, and is flexible enough to enable rapid introduction of new services without major investment. Without the utopian application that appeals to everyone, CSPs have to support a wide range of services that cater to diversity of need across their entire subscriber base — getting this right is critical.

The explosion in these services leads nicely into the wider issue of standards, which at present focuses on the subscriber and less so on group-based services, such as buddy lists and shared subscriptions. As reported by Logan Orviss International, October 2006, CSPs must be savvy to implement the extra and enhanced services in an efficient manner and by placing the subscriber data in a central location, leveraging the serviced-based architecture in IMS, to ensure the benefits can be truly realized.

Network architecture aside, having the right people with the right skills is also another challenge CSPs will face in 2007. If we are to believe The Economist Intelligence Unit report, 50 percent of companies lack in-house skills and experience in IP convergence technologies, which if not addressed by the industry as a whole will surely impede the "no longer evolutionary" migration to IMS.

However, migration to an IMS architecture rests on the number of "true IMS" mobile handsets that will be ready when the technology comes to market. Disruptive Analysis forecasts that IMS handset functionality will only reach 20% of the market in 2009, and even then it will be of limited use because of the shortage. But, this IMS "chicken-and-egg" debate could rage on if not addressed in the wider context of the growing trend towards fixed-mobile convergence (FMC).

The IMS in FMC

With 70% of global senior executives viewing convergence as a driver for improved customer experience (The Economist Intelligence Unit, November 2006), which ultimately decreases churn, IMS's role in this could prove the jewel in the crown to help build the solid business case.

Proof comes from ABI Research which predicts that operators will spend $450 million during the next five years to create FMC-enabled networks. If that seems a lot, the payoff is much, much bigger: ABI predicts that in 2011, operators will generate $97 billion in revenues from FMC services. And IMS is the missing unifying block between the fixed and mobile world, creating a mechanism whereby providers can provide common services to their subscribers, independent of how subscribers choose to access the services.

The Future of IMS

Fixed-line operators who decide not to migrate to an IMS architecture are set to lose an opportunity to develop new revenue streams and encroach on the 'walled garden' of the wireless world. Those in the mobile camp that opt out of IMS are bound to propagate increasingly complex networks as they attempt to defend their market positions by deploying "plug-and-play" services on existing architectures.

Everything considered, IMS is here — without it, the fixed or wireless providers will struggle to compete against the new entrants providing converged services, the likes of Skype, Google, ISPs and the multitude of broadcasters. Operators would be foolish to compromise on the IMS architecture they deploy — a centralized data architecture is vital to support future FMC services. With a good IMS architecture in place, this will provide flexibility, which will prove to be the vital weapon to win the FMC race.

W. Stuart Jones is General Manager and Vice President, Americas, of Apertio. (news - alert) For more information, visit the company online at http://www.apertio.com.

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IMS: The Road to Camelot?

by Rick Mace

In the telecommunications industry, IMS (Internet Protocol Multimedia Subsystem) can be considered our 21st century road to Camelot. It represents a change in the way carriers do business and provides great potential for the future. It is a blueprint for how carriers can architect their networks to deliver multimedia applications that are access and device independent. It also represents a fundamental and disruptive shift in the way networks will be built and managed over a very long period of time.

However, with every legend comes an element of the unknown. In the days of Camelot, King Arthur had Merlin to predict the future and protect the kingdom. Unfortunately, we have no Merlin, and no one can predict when IMS will be deployed, how successful it will be, or how far it can truly take us into the future.

IMS is an Evolution

Because we can't see into the future, the path to IMS will be a long and sometimes difficult road for operators and vendors alike. What we do know is that given the tremendous investments in fixed and mobile legacy networks, the move to an IMS-based architecture will be more of an evolution than a revolution.

In reality, we are just beginning the quest. Consider just a few of the issues that operators will need to address during the transition to the IMS future:

- Completing an IMS services business case
- Integrating new services with legacy services
- Disassociating functions such as billing from the switching/access layer
- Creating new services independent of switches and service control points (SCPs) at the application/services layer
- Addressing the fixed mobile convergence (FMC) dynamic
- Anticipating the impact of future disruptive breakthroughs

In addition, carriers will continue to face pressure to compete for subscribers by simultaneously offering new multimedia services, reducing operational costs, leveraging existing investments, increasing revenues and remaining attractive to investors while sustaining their business models. The pressure will only grow as disruptive competitors, such as cable operators, voice over IP (VoIP) service providers and mobile virtual network operators (MVNOs) add voice services to their offerings.

Building the IMS Transition Path

Although the reality of full IMS deployment is many years away, most carriers today are developing their IMS architectures and selecting the vendors that will see them through the transition. As they begin their quest to the all-IP future, it is important to understand several realities about IMS, including the following:

- IMS is not the same as VoIP
- IMS is not an evolution of the switching fabric
- IMS will make hardware a commodity; and
- IMS is primarily a software-centric approach to multimedia services networking.

> While there are many variations of the tale of Camelot, the basis of the story is the same. Camelot is the most famous castle in the medieval legends of King Arthur, and where, according to the legend, he reigned over the golden age of Britain with the greatest and most chivalrous warriors in Europe, the Knights of the Round Table. Camelot was the Utopia, the starting point of the Quest for the Holy Grail, and it came to symbolize the center of the Arthurian world.

In many ways, the focus on IMS is misleading. Instead, carriers should be concentrating on the transition path to get them there, by defining the role of the network control layer in a way that an ever-increasing number and types of revenue-generating applications can be added in a vendor-independent environment. The focus of IMS investment should be on enabling the creation and deployment of these applications.

The challenge that carriers face is to leverage their investments in existing network resources as they add on new session initiation protocol (SIP)-based IMS elements. They also must ensure that they can deliver existing and future services, seamlessly, and across disparate networks.

A well-designed IMS architecture needs to address subscribers on both the legacy and next-generation sides of the network, anticipating and harmonizing services seamlessly across the legacy-next generation border. This will increase revenue opportunities by making next-gen services available on the legacy side and intelligent network (IN) services available in IMS environments.

IMS will not succeed if it is an "all-or-nothing" proposition that requires carriers to throw out their existing network equipment. For operators to select an IMS-based solution in today's cut-throat market, it must improve economics.

By inter-working IMS services with existing services, devices and networks, operators immediately create this economic value. Selecting IMS service infrastructure elements that seamlessly co-exist and inter-work with circuit-switched networks makes economic sense and is critical to the success of IMS. See Figure 1.

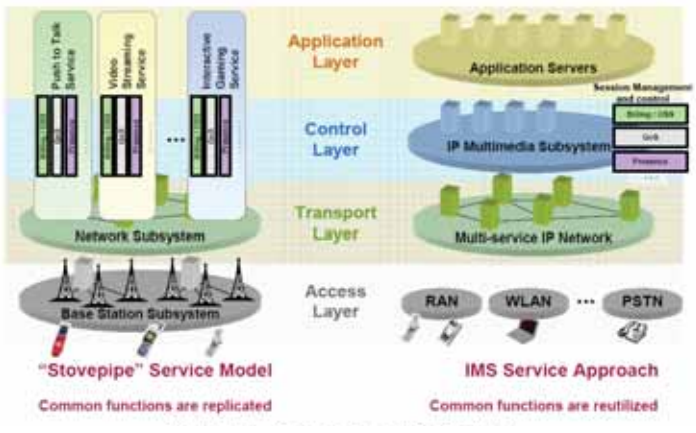

Figure 1 *Source: Frost & Sullivan*

Signaling at the Core of IMS

Many carriers are surprised to learn that IMS does not mean the end of signaling. In fact, the reality is quite the opposite. IMS networks are, by definition, services intense. IMS will actually require 30 times more signaling volume than the plain old telephone service (POTS). See Figure 2.

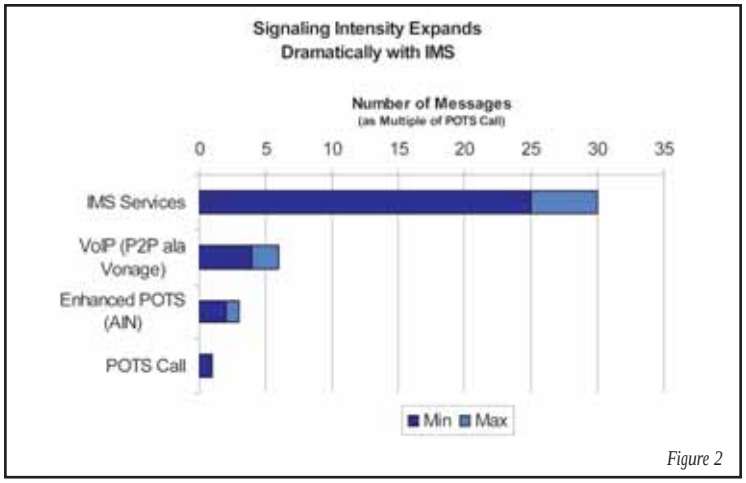

Figure 2

A gradual migration to IMS at the signaling layer is the most practical, technically feasible and cost-effective approach for both migrating to IMS and managing a hybrid Signaling System 7 (SS7)-SIP signaling network for years to come.

Transitional technologies such as SIGTRAN provide a "stepping-stone" function from the SS7-based TDM (time division multiplexing) and 2G wireless networks to IP and, eventually, the SIP-based IMS network. This allows carriers to address the financial, technological and network issues that come with migrating to IP-based signaling prior to IMS deployment. It also provides operators with a reusable, standards-based framework which enables them to more quickly and cost-effectively develop and deliver new, multimedia services to subscribers.

Future Promise of IMS

Lewis Carroll once said, "If you don't know where you are going, any road will get you there." Despite the uncertainty around IMS, it is still the road to the future. IMS will allow carriers to provide more content, volume, connections, sessions, transactions, revenue and profit than ever before. Most importantly, it will enable the introduction of new capabilities and revenue-generating services to market.

Like the road to Camelot, IMS is the path to great potential and great promise. We still have many challenges to conquer, but IMS is poised to guide carriers to a bright and prosperous future.

Rick Mace is executive vice president of global group operations at Tekelec (http://www.tekelec.com), where he is responsible for strategy development and planning for the company. (news - alert)

From the Desk of Michael Khalilian

Forward Thinking 2007

IMS provides a powerful tool to support wireline and wireless service providers with applications delivery to support enhanced services, service convergence and network convergence to provide new revenue generating services to end users.

Yet for all its rising promise, plenty of challenges and questions continue to plague IMS. As noted in the past, ambiguities over IMS standards, protocols, interfaces and interoperability continue to hinder its development. The uncertainty doesn't end with interfaces or interoperability. The market may simply be unsure how to reap IMS' promise quickly and efficiently. "Its very flexibility and diverse promotions by vendors are creating confusion," warns Dr. Brydon of Sound Partners Limited in a recent report. "Vendors claim that IMS will bring diverse benefits for network operators, but hype and lack of clarity make it difficult for operators to identify the most significant short- and long-term-term gains, and to define a robust strategy for deployment of IMS."

IMS' robust but uneasy future isn't unique among emerging technologies. But that doesn't mean its ultimate success guaranteed either. All those involved in IMS must dedicate themselves to making 2007 the year IMS truly begins to reap its rewards by identifying and demonstrating its clear value-position and working to overcome protocol standards and interoperability issues.

Whether in business or life, the end of a year is always a good time to step backward and reflect on the past while also taking a look at where the future will lead. IMS enjoyed a year of rising prominence and promise in 2006, thanks in part to the realization that IMS is the key to supporting enhanced services as well as providing an attractive transition from circuit-switched to IP-based networks. A simple search of "IMS technology" on the Internet underscores the general interest in IMS. In less than one second, the search yielded over 10 million sites. By the close of 2007, this number will increase dramatically.

The IMS Forum (http://www.IMSForum.org) remains at the forefront of achieving all this. The Forum is eagerly linking up with like-minded associations to promote awareness and common interests that will advance IMS development and deployment. We're also working to raise awareness of IMS through conferences, speaking events and various outreach efforts. And, of course, the Forum is launching its Plugfest program that will establish an industry recognized certification of interoperable IMS applications and services. For more information on IMS Plufest, visit http://www.IMSForum.org.

More needs to be done and companies, associations and individuals must work together in 2007 to overcome some of our common hurdles. This can come through working with the IMS Forum, supporting programs like IMS Forum Plugfest and working to clearly communicate IMS' overriding value position. Ultimately, IMS must gain industry mindshare in a way that leaves little doubt of its overwhelming value and return on investment. Superior technology alone may not achieve this. It must be accompanied by superior communications messaging and industry cooperation to develop cohesive deployment guidelines and ROI strategies for implementation of VoIP (define - news - alert)and Enterprise applications with a new generation of revenue generating services in multimedia, IPTV, mobility and access through enhanced Broadband technologies.

Michael Khalilian is the President and Chairman of the IMS Forum and CTO, Pervasip Corp. (news - alert)

For membership information, or to participate in IMS Forum working groups, plugfest and membership info, please visit http://www.IMSForum.org or contact Michael Khalilian at MKhalilian@IMSForum.org.

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