

NG OSS a Philosophy at TTI Telecom

By Eric Klein, Yiftach Nagar, and Zohar Weitz

With the advent of changing requirements for OSS/BSS the TMF has started the Next Generation OSS (NGOSS) recommendation. NGOSS defines a strategic direction for a more standardized OSS marketplace.

NGOSS defines for Service Providers and their suppliers a comprehensive, integrated framework for developing, procuring and deploying operational and business support systems and software. NGOSS is provided as a set of documents that make up a toolkit of industry-agreed specifications and guidelines that cover key business and technical areas, and a defined methodology for use of the tools. NGOSS uses a "Lifecycle" approach to development of management systems, based on clear definition of business processes, specification and architecting software and systems to automate those processes, and compliance of those systems against NGOSS test criteria.ⁱ

The TeleManagement Forum (TMF) has defined the enhanced Telecom Operations Map® (eTOM) to show the different functional areas necessary for successful management of the Operational Support Systems (OSS) and Business Support Systems (BSS) in a telecommunications service provider. This has become the industry standard for areas of support for the different OSS/BSS software providers. In figure 1 the areas where TTI Telecom supports this map are indicated by the TTI Telecom Logo, cells that are fully pink can be completely managed using TTI Telecom's Netrac Management System, half pink cells are where TTI Telecom provides support for part of the functions of that area of the eTOM map (For a full explanation of the eTOM map please see the TMF website www.tmforum.org). TTI Telecom is part of the TMF working team that helped define the eTOM map.

Both the TMF's eTOM and NGOSS are ongoing TM Forum initiative to deliver a business process model or framework for use by service providers and others within the telecommunications industry.

The TMF NGOSS concept is based on the principle that different functionalities should be interconnected across a single, consistent information model so that the telecom entities are modeled the same way across the different Operation Support Systems (OSS). This facilitates seamless integration of various Operation and Business Support systems including: fulfillment, assurance, and billing (as defined in the eTOM) inside and outside the enterprise, yielding reduced operation costs, shorter time to market and improved return on

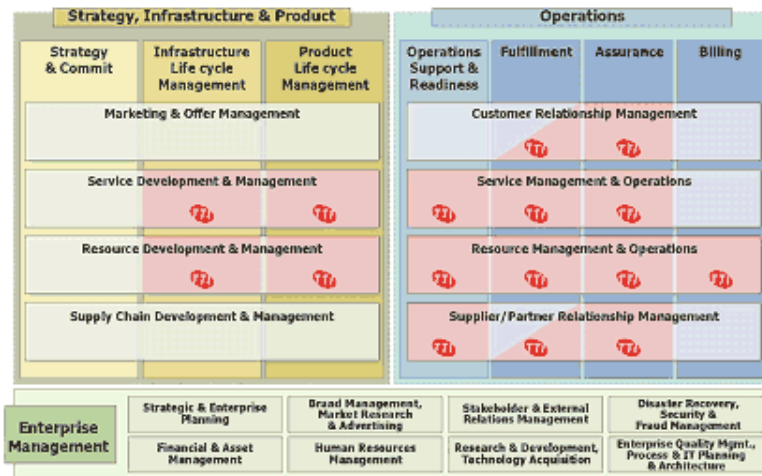


Figure 1 TTI Telecom's Support for the TMF e-TOM

investment. The use of a common information model promotes the introduction of new revenue-generating services and simplifies business processes along the life cycle of the service. For example: the service is created and stored in the inventory complete with all SLA related parameters and this is in turn used to provide proper support for the performance and SLA management systems. For the past 11 years this has been the philosophy within the TTI Telecom's Netrac OSS system, one data model used by all of the functional modules.

TTI Telecom recognizes the potential value of NGOSS recommendations and is keeping a close eye on the relevant areas. Some areas of NGOSS are not completely defined yet, but as an active member of TMF, with representatives in the relevant working groups, TTI Telecom follows up closely on NGOSS advancements.

Solution Design & Integration delivered in the Contract Interface and Technology Neutral Architecture (TNA)

Avshalom Ben-Zoor, AVP Product Management for TTI Telecom explains that while the TMF has rather successfully managed to establish its Multi-Technology Network Management (MTNM) set of recommendations (and specifically: TMF 814) as a common EMS-NMS interface "to-date, the industry has lacked standards defining the OSS-OSS interface. The OSS over Java (OSS/J) initiative is trying to address this space." Recently, the TMF has been trying to align MTNM and NGOSS information models in order to establish a consolidated information model for telecom management. TTI is a member of TMF MTNM group, working on the establishment of the recommendation and follows those efforts very closely. We intend to offer an XML over JMS based API, based upon TMF and OSS/J guidelines, to the extent possible.

The process of approving the new NGOSS recommendation is a long and arduous one, where the working group works on developing an agreement on the recommendation and then advancing this to the TMF President.

Where the work of a Program Team results in the production of a system, standard or other work output in documentary form, such document may, with the approval of the President, be submitted to the Corporate Members for approval.ⁱⁱ

A simple majority is needed within the Program Team for the document to advance and another one is needed from the Corporate Members for the recommendation to become an officially sanctioned TMF Recommendation. Unfortunately these approvals can take time as the different Service Providers, Hardware and Software manufactures (like TTI Telecom) have different goals and requirements. But this is part of all standards approvals and shows that the process works, as it allows all members to voice their opinions and recommendations regardless of which aspect of the industry they represent.

One example of this is the adoption of OSS/J as the NGOSS standard. Some of the team members feel that although OSS/J meets the data model desired, they would prefer a more generic version that was not designed to be Java specific. This coupled with the fact that other Program Teams are also looking at OSS/J for other features means that it will require more discussion and agreement until this is advanced for approval as part of the NGOSS recommendation.

"Next generation is happening now," said Avichai (Avi) Levy, TTI Telecom's Senior VP of Global Marketing. "New technologies such as IP, Metro-Ethernet, next generation SDH/SONET are the driving force behind today's telecommunications world, empowering service providers to roll out a plethora of new innovative services."

Continued Levy: "Along with the enormous opportunities that next generation creates, it also poses immense challenges for service providers. At TeleManagement World (Dallas) TTI Telecom addressed these challenges head-on, and explained our next generation vision and roadmap. We discussed the next generation OSS framework (NGOSS) and how the Netrac NGOSS solution complies with the standards and

requirements of NGOSS, and presented live demonstrations that showed how our NGOSS solutions operate under real-world conditions."

Over time the change from start-up service providers to established ones has resulted in a need to change the model of how OSS interoperates. When companies have nothing the single brand approach works fine, but when a provider already has some modules there is a need for a difference in approach to how the OSS will be designed. In these cases it is necessary to have the ability for products from different companies to interconnect and interoperate. The NGOSS recommendation is a step in the right direction. Other approaches have included different Application Programming Interfaces (APIs) for this interconnection. Over the years TTI Telecom has successfully interconnected to many different vendors software and understands that a company providing a complete end-to-end solution needs to have the modules tightly integrated while loosely coupled to allow this interconnection with 3^d party software.

About TTI Telecom

TTI Team Telecom International Ltd. offers advanced, modular and integrated software products and services for Operations Support Systems ("OSS") and Business Support Systems ("BSS") to telecom service providers. TTI Telecom is uniquely positioned to bridge legacy and next-generation, network and service infrastructures with its Netrac-based service assurance, fulfillment and revenue assurance solutions. With Netrac, service providers can reduce operating costs, enhance profitability and launch new, revenue-generating services more rapidly. Over 60 service providers worldwide have deployed TTI Telecom's solutions, supported by offices globally. For additional information, please visit www.tti-telecom.com.

TTI Telecom's Service Management family of products enables operators to understand services from the end-user's perspective. The Service Management products collect data from various OSS and BSS in an operator's environment, such as key performance indicators, alarms, call records, signaling and configuration data, test results, trouble tickets, and work orders. The network and service data is then correlated, analyzed and presented in Web-based reports and monitoring screens. This gives operators optimal visibility into real-time and historical service performance, allows them to pinpoint and pursue service degradations as they occur, and make improved service and capacity planning decisions.

Daphna Rosenthal will be presenting TTI Telecom End-To-End Service Management concept at the TMF Nice in session NMGT9 being held Wednesday, May 19, 2004 between 4:30 PM and 5:30 PM. The session is titled Multi Dimensional Assurance - Get the Right Perspective into your Network!

About the Authors

Eric Klein has a Masters of Science in Information Systems and a Bachelors of Business Administration in Management Information Systems, both from Pace University, New York, USA. He has taught classes at both the undergraduate and graduate level at Pace University in New York, USA and the Academic College of Tel Aviv – Yaffo, Israel in Practical Networking.

His practical experience in management consulting is from his experiences at Moran Stahl & Boyer in New York, and as a Senior Technical Consultant for MCI. Currently, Mr. Klein is Next Generation Solutions Manager for TTI Telecom. He is a member of the ISOC, the IETF (IPv6, Evolution of SNMP, SNMP Version 3, and IPv6 Operations working groups) and the IEC.

He has several articles published on various topics related to Telecommunications Management, including **Disaster Recovery: Lessons Learned - A New York Minute**, IEC Comprehensive Journal on Operations Support Systems: Solutions and Strategies for the Emerging Network, July 2003. (USA)

It Pays to Be Informed, Voice & Data, October 2003. (India)

Merging Network Operations Centres: The hardware and software are the easy parts, Convergence Plus, October 2003. (India)

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Yiftach Nagar

Yiftach Nagar currently serves as a Senior System Architect at TTI Telecom, leading the middle-tier and API architecture group. Prior to beginning his telecommunications career at TTI Telecom in 1996, Mr. Nagar has consulted to various companies in the areas of business process management and quality assurance. At TTI Telecom he has successfully served in various roles in R&D and project management. Later on he held the position of Product Manager at PacketLight Networks where he led technical, marketing and business activities. Yiftach Nagar has a Bachelor of Science in Industrial Engineering & Information Systems from the Tel-Aviv University, Israel.

Zohar Weitz has a Masters of Business Administration and a Bachelors of Science in Industrial Engineering and Management, both from the Technion – Israel Institute of Technology, Haifa, Israel. Her practical experience in the Industry is since 1995, starting as a Projects Manager at Elbit Systems and continuing at Comverse, where she was a Marketing Product Manager. Ms. Weitz is currently a Marketing Manager at TTI Telecom.

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ⁱTMF NGOSS website <http://www.tmforum.org/browse.asp?catID=1911>

ⁱ [By-laws of TeleManagement Forum](http://www.tmforum.org/browse.asp?catID=1094&sNode=1094&Exp=Y), Article 12.4 Forum Approved Documents
<http://www.tmforum.org/browse.asp?catID=1094&sNode=1094&Exp=Y>