



Wireless IP Access: A Case Study

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About LTC International Inc.

LTC International provides leading companies in the telecommunications and IT sectors with a unique level of service based on true subject matter expertise. Our Business Operations Architects® each have at least ten years of hands-on experience in service provider and IT intensive companies. Our consulting team has experience in all areas of business profit optimization, wireless and wireline communications, Internet services, as well as software and hardware planning, implementation and operations.

LTC has incorporated more than 1,000 years of first hand operating company and software application experience into our Business Management Toolkit. This comprehensive set of tools, guidelines, checklists, templates and training programs is designed to remove uncertainty and accelerate success for our clients.

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WIRELESS IP ACCESS: A CASE STUDY

Summary:

A metropolitan wireless access service provider was starting from scratch, and needed an entire operational IT suite of tools and the processes for supporting services in a new NOC. Time-was-of-the-essence and LTC responded in 6 months with an acceptable, cost effective OSS/BSS design solution. The TOM provided a common process framework and language so that everyone: client, LTC, and prospective vendors remained on the same page. Using NGOSS, as augmented with LTC's OSS/BSS requirements template, shaved months off normal project times. Profiling and prioritization allowed features and product sets to be winnowed to just what was needed to be competitive. LTC was able to save this client nearly \$9 million in OSS/BSS costs.



Business Operations Architects





Business Problem

A west coast metropolitan wireless access service provider was gearing up to provide modern high-speed Internet and VoIP services to selected markets in the US and internationally - based on unique cell-based wireless access technology which they controlled. They wanted a business and operational infrastructure that efficiently delivered high quality customer service. The OSS/BSS design must compliment the leading-edge capabilities of its access technology and interface with their proprietary element management. Starting from scratch, they must acquire an entire operational IT suite of tools with the automated and manual processes for supporting services in a new NOC.

More immediately, they wished to validate their proposed business model with a very accurate cost assessment to weigh against a projection of market penetration and future revenues. This company needed to justify their capital and operational costs to their investors before launching their service. Further, being the new entrant into existing markets already serviced by traditional access technologies, they needed to know they would be more efficient and faster to provision services. Succinctly, they needed to first succeed with their investors and then out-compete the incumbent.

The provider originally engaged with a large Systems Integrator who proposed a full OSS blueprint using the System Integrator's existing recommended suite of established products and the System Integrator's pre-built integration junctions. This solution was essentially a state-of-the-art CLEC business blueprint and came with a corresponding high price tag. LTC argued that not all functions available in this suite were proven to be needed by the service provider at launch. While respected tools, some of the features of these top-of-the-line OSS/BSS products might never be needed in this market. Further, recognizing the significant time constraints to validate the investment model and then meet the required service window of their first test markets, some prioritization of functionality by the client was imperative; LTC could provide this help. LTC proposed a directed requirements capture and validation of the OSS & BSS features needed by the service provider as the proper first step.

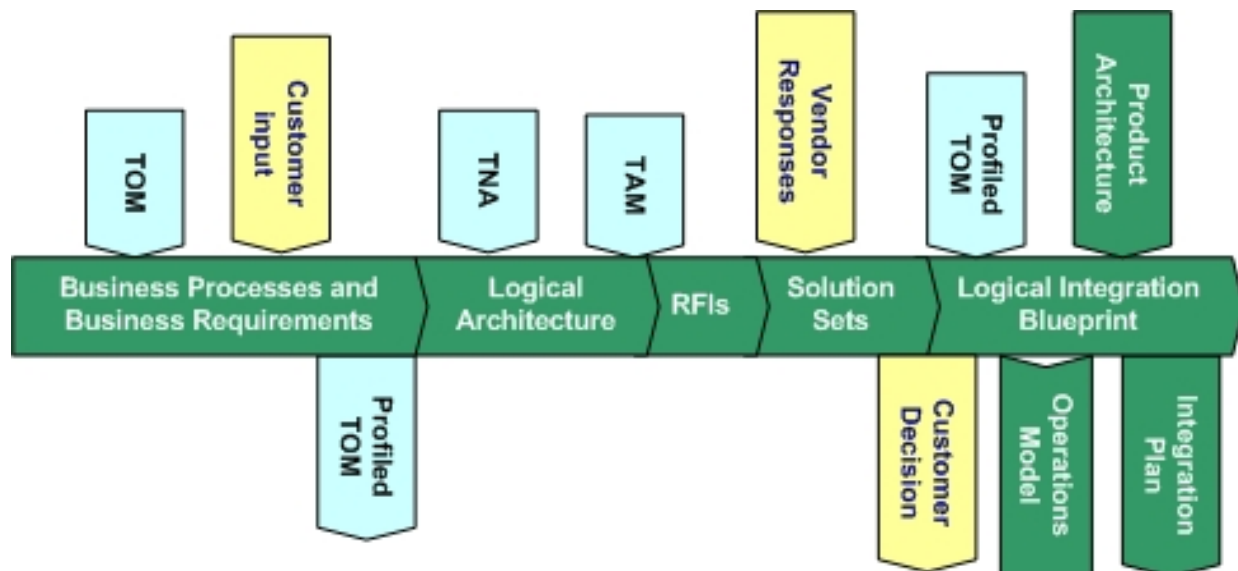
LTC believes strongly that the business objectives of the service provider should drive all aspects of market and launch planning, tool selection, staffing, business process design, operating policies and performance measurement. However, this must be balanced against the need to launch, essential services in a short window of market opportunity. TMF patterns and particularly TOM and NGOSS provided a framework that allowed achievement of the business plan without undue delays before launch of operational and IT services. However, published NGOSS methods alone cannot substitute for significant planning with direct involvement between the customer staff and LTC's Business Analysts. Experience and vision is needed first to provide strategic planning and aid effective decision making and then to oversee implementation and project delivery.

Working towards a solution

LTC's first challenge was to be fast on its feet. A proposal was produced in one week followed by 3 weeks of proposal reviews and project adjustments. This allowed the service provider to respond by signing in only 3 more weeks. All aspects of the project were planned out and documented with project management software. The project plan was completed during the 3 weeks of contract negotiation so that our client knew exactly what the expenditures and timing for deliverables would be. Then the project was driven to these resource commitments and milestones.

LTC quickly mobilized a lean, experienced team that began the requirements gathering within days of contract signing. This first step in the project engaged the business team of the service provider in defining business and operational goals for both the immediate project success and for the provider's ongoing business success. LTC utilized NGOSS for practical rather than ideological reasons. The operational goals were essentially similar to the original NGOSS business requirements, as profiled by LTC for a startup organization that had yet to make any errors. Starting with the NGOSS requirements, as augmented with LTC's OSS/BSS requirements template, shaved months off normal project requirements gathering times.

The next step in the project was to design process models for the FAB services necessary at launch. The TOM was used as the core for process design, with simplifications and modifications taken only as specific business requirements demanded for an operator in this specific business segment and markets. This allowed the core processes to be designed and documented in under 2 months linear project time. Then LTC computed the expected cycle times for these end-to-end operational processes creating a simulated model of how competitive the new processes would be.



Following only after the processes were designed and then approved by our client, LTC then derived the functional OSS requirements. NGOSS functional requirements and NGOSS operational drivers were used as checkpoints in the specification of these requirements. Prioritization of these requirements was



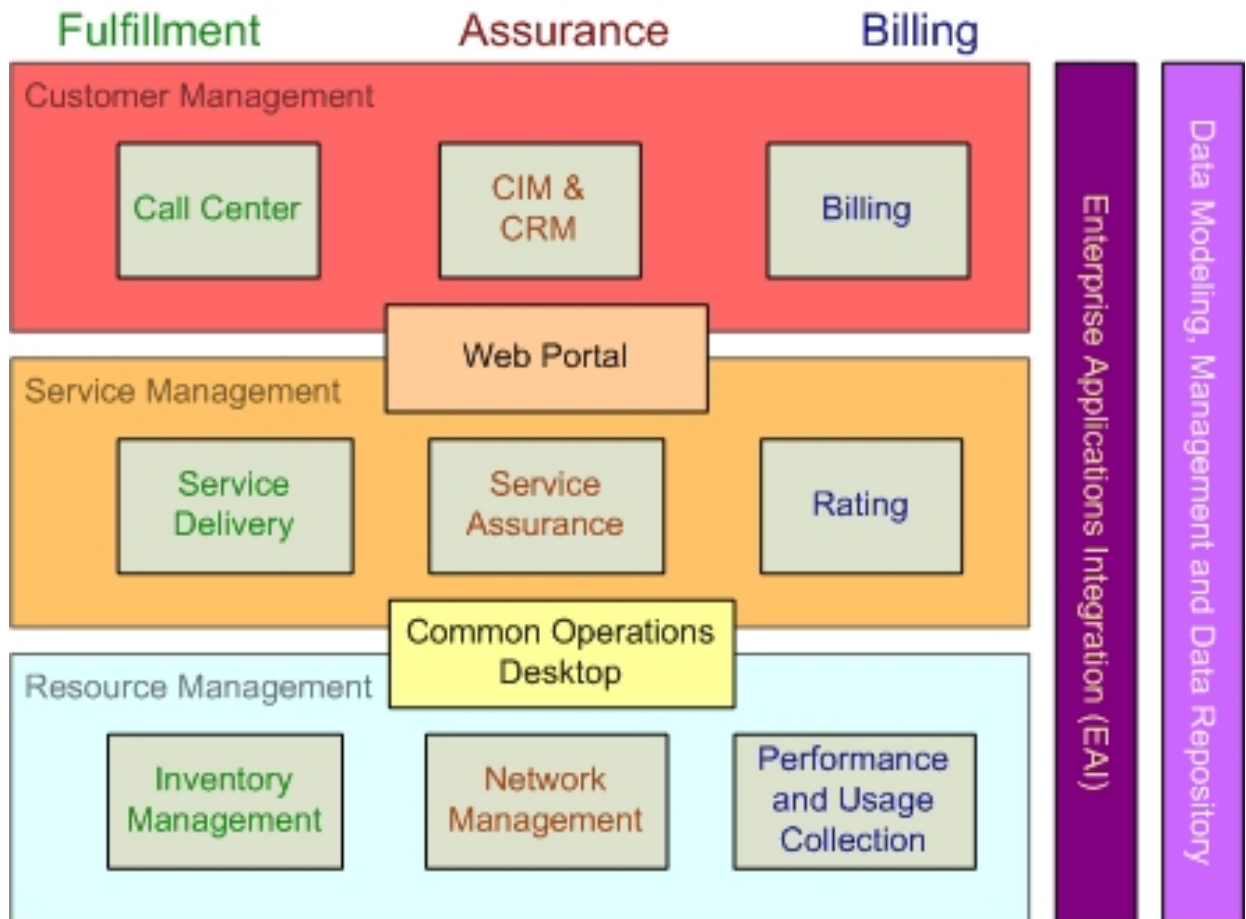
done jointly with the service provider under the principle constraint of their short implementation timeline. From these LTC produced a *Logical Solution Architecture* as a means for driving product selection and integration requirements.

Solution Orchestration

After winnowing the architecture and processes to those necessary to launch and be competitive, the initial application solution set included Customer Management, Service Management & Delivery, Billing & Collections, Inventory Management, Network Management, and Service Assurance. NGOSS TNA guided integration design within an Enterprise Application Integration (EAI) specific technology solution (message buss & work orchestration).

LTC is completely OSS/BSS vendor neutral. New Request For Information's (RFI) were generated requesting rapid quotes from product vendors for tools that fit the specifically identified architectural niches (early TAM) and fulfilled the winnowed processes and the customized & expanded TOM processes design. Emerging and second tier (by revenue not performance) vendors were approached and included in the review as these indicated their ability to meet cost and timeline thresholds. Vendors were not given time for overly long proposal submissions nor were any customization of their products allowed. This resulted in easy to read responses where a simple matching of feature to architectural niche and function to designed process could be made by LTC. These were packages for our client as proposed best fit and alternate *Product Solution Sets*. Only at this point were the vendors from each group introduced to the client. This introduction was done in product proposal presentations with, where possible, live product demonstrations. Using a utilitarian approach to product selection allowed the client to quickly and unemotionally choose their desired product suite while still participating in the tool selection and gaining a critical direct relationship with the tool vendors.

Given a qualified, selected vendor product set, the next level of detail was chased down to determine the precise *Logical Integration Blueprint*. Products today have considerable overlap in features and functions, but a streamlined project and efficient operational process can support just one unequivocal solution. Overlaying the processes and business requirements to the vendor's capabilities allowed LTC to winnow the fit of each vendor solution to match the pre-vendor architecture. What emerged was a "lean & mean" final solution design. This solution included the architecture, product suite and prices, automated and (where they were cheapest) manual processes, operational headcounts and service times, integration methodology, and integration project plan.



Win-Win

Beginning to end, this engagement was complete (first client contact to validated OSS/BSS product bids with integration costs & plan) in less than 6 months. LTC believes that besides the day-to-day operations of a service provider needing to be “lean and mean”, so to should OSS/BSS projects be “fast, furious, and on target”.

LTC and our client were quite pleased with the results, as were the tool vendors and our client’s investors. Specifically, NGOSS and TOM provided a framework for streamlined design:

1. Using the TOM business processes as our starting and ending point provided an excellent foundation of common terms of reference to keep our client, our team and the OSS/BSS vendors all talking the same language.
2. Developing testable Business Requirements statements enabled us to ensure that the client's needs were accurately documented, aligned with the Business Processes, and could be proven to work in the UAT phase of the project.



3. Overlaying the Business Processes and Business Requirements against the proposed software applications enabled us to "see" where overlaps and gaps existed. Our methodology of driving from a *Logical Integration Blueprint* down to the next level of data and application integration, enabled us to refine the OSS/BSS Architecture thereby determining where automated interfaces could be pragmatically implemented, and where manual work around were more appropriate for our client's operations.
4. Our closed loop approach of beginning and ending with the TMF TOM processes and requirements statements, augmented with our Logical Integration Blueprint activity in the center, enabled us to identify that several OSS/BSS software applications that had been proposed by their Systems Integrator, were actually not required to support the business operations envisioned by our client.
5. LTC was able to cut \$6.8 million in license fees out of the original big SI budget, and streamline the Integration Plan, saving a further \$2.1 million.

Strategic Support

Based on this project's accurate costs and operational plan, when compared against the externally developed market and business development plan, the client company and its investors declined to launch as a direct service provider in the highly competitive and uncertain markets. However, they did repackage their business model to that of a successful "full service" network equipment supplier and offered the Solution Set that LTC helped them develop to *their* service provider customers as a 'total package' with their equipment and service plans. The designs LTC (and its silent partner in the TMF standards) produced and the vendor introductions LTC made lived on. Today, this vendor has made significant money for their employee stockholder team and their investors.

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