

The CableOSS CHALLENGE

Better Data, Integration and Apps

Over-reliance on billing systems, lack of integration and neglect of end users continue to characterize today's operations support systems. With consolidation having slowed down, now is a good time for the industry to look toward solutions.

By Ron Ronco, Scientific Atlanta

In a scenario reminiscent of a room filled with agitated, uncooperative negotiators speaking several languages at once, cable operators' varied operations support systems (OSSs) may deliver a solution, but without the efficiency and ease of stakeholders working in harmony.

One reason for this lack of unity is that cable operators rely on billing systems to drive a broad range of disparate functions, from billing, provisioning and rating to workforce management and voice over Internet protocol (VoIP) service. Simply put, the billing system is doing considerably more work than it was designed to do.

To create customer value, operators must employ systems that benefit their customers. That means investing not only in network systems that deliver reliable video, data and voice services, but also in support services that ensure happy, well-served customers. Those are the customers most likely to see value in maintaining their cable service, thus generating revenue and reducing churn.

Growing complexity

As operations and services become more complex, the OSS problem grows exponentially. Add competition from satellite and IPTV from telecoms, and cable operators are faced with requirements for higher lev-

els of customer service than ever before.

The industry recognizes the problem, but has not made a concerted effort to solve it. This may reflect the industry's background and evolution. Not long ago, the country was filled with thousands of small cable providers, but today the top five operators represent a large portion of the total industry. Additionally, it has been less than 10 years since digital video and high-speed data became industry-wide initiatives.

Such changes have led to a disconnect. For the most part, OSSs and business support systems (BSSs) have not consolidated as fast as the industry, and these systems have primarily changed just enough to handle the requirements to support advanced services. While service providers have examined their OSS/BSS challenges individually, they have not yet turned this into an industry initiative.

The reactive habit

Cable operators have evaluated the problem from a technology standpoint, but have focused less on how to build systems that enhance the customer experience, reduce complexity, or improve usability and effectiveness.

In today's cable system, customer service representatives (CSRs) must access multiple applications while performing their

jobs—a process that hinders their effectiveness. Critical data is not brought together in one cohesive user experience that allows CSRs to operate effectively and provide a high level of customer satisfaction.

Consider this classic scenario. A customer has an outage and knows there is an outage along his street because he has spoken to his neighbors, and they are experiencing the same problem. The customer calls the cable operator, whose solution is to send a technician to one house even though the problem is more widespread. Another customer calls, resulting in another truck roll, and possibly a third.

The resulting outage "solutions" are purely reactive, and multiple trucks roll before the broader problem is diagnosed. There may be some logic in the billing system that correlates calls from two or more customers on the same or adjacent street, but chances are the system does not alert the CSRs to a pattern of outages in an area. For the most part, the industry has relied—and continues to rely—on customers to report service problems.

The lack of horizontal access to data about network management issues and the absence of solid workforce management tools for dispatchers results in wasted, duplicated efforts that do nothing to resolve a problem.

Beyond billing

Cable operators still rely on the billing system to handle the business and service management layers. Separate network and element management systems often are also in place with no simple way to aggregate, analyze and use the important data contained in these multiple software silos. To further complicate matters, there may be different billing systems and OSS software in use within a single cable company, making it even more difficult to implement standardized, system-wide improvements.

Many operators have recognized the need for next generation OSSs/BSSs and are evaluating the best alternatives for their markets. This is a good first step, but there's more to consider from a broader, industry-wide perspective.

An important part of a long-term strategy involves the creation of incremental value. It is not practical to implement a complete swap-out with a single event, nor is it economically feasible or proven. Cable operators can create incremental value by opening up certain systems or by having standards available that third-party vendors can develop around.

Strategic framework

Here are three more points to consider in approaching this challenge:

Immediacy. Cable operators know the current system is inefficient and want everything automated and integrated immediately. The fact is, many cable systems do not have the infrastructure in place today that will support immediate automation and integration. Again, a long-term strategy that allows flexibility for future expansion is best. Avoid solutions that allow you to do things one way today and a whole new way tomorrow.

Build vs. buy. Some cable operators today are building integrated systems. In attempting to build, cable operators must think through the architecture carefully and consider decisions beyond those regarding the software development costs. Cable operators must look at how the system is built and, once built, how to troubleshoot and support the system. Remember, with a

built system, cable operators may be creating a big IT infrastructure to fix, maintain and expand. Evaluate the pros and cons of buying and building options. There can be value in buying, especially when support and integration are considered.

End-user needs. The needs of the CSR, dispatcher, technician and billing representative must be factored into any decision about an OSS. Inefficiencies for any of these end users have potential for leaving money on the floor. Significant revenue leaks can be plugged by delivering an integrated management system.

The near term: integration and user groups

Two main areas should be focused on near term: improved integration capabilities and

but all too often the industry selects or develops applications that do not fit the unique needs of each user group. Neglect of these discrete groups is a root cause of many dysfunctional systems.

Mediation layer

Long-term, there is a need for standards-based mediation. With a mediation layer in place, each point of service would have a common access point to all of the data within the layers of the OSS. A mediation layer could serve as a gateway to critical data that currently resides in proprietary programs that are often not connected. (See Figure 1.)

The cable industry has yet to fully embrace standardized mediation from an OSS perspective. A good first step would be to

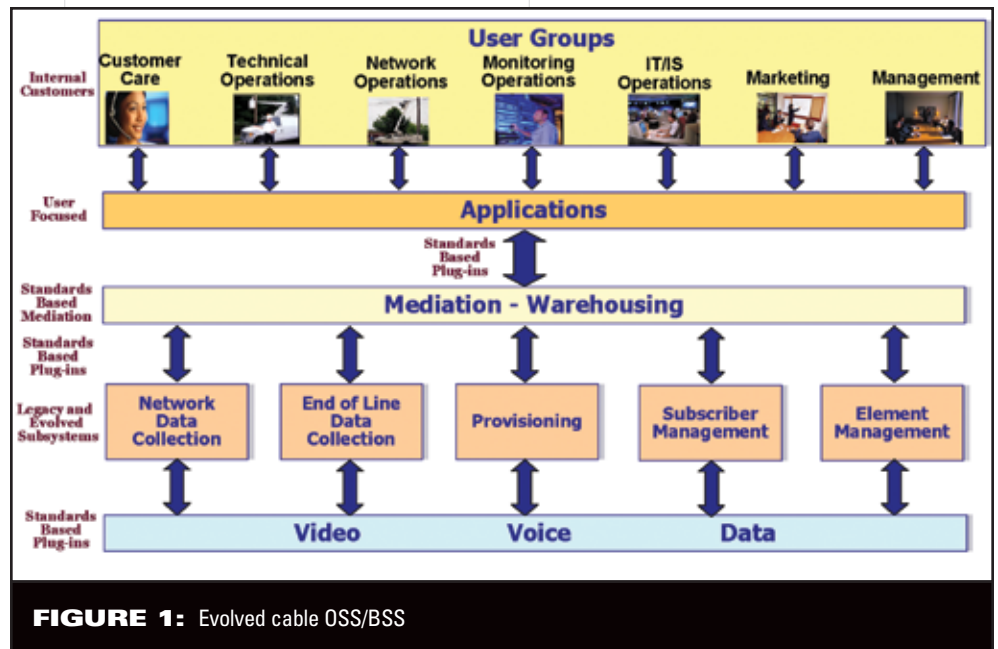


FIGURE 1: Evolved cable OSS/BSS

user-focused applications with analytics.

Powerful applications are available now from numerous vendors that can operate as stand-alone systems, but can provide more value if integrated with legacy systems. For the most part, operators are hesitant to deploy new applications without seamless integration, yet current closed or proprietary systems make this task extremely difficult and expensive. This has created a difficult situation for operators and has slowed the deployment of applications that could create significant value.

Deployment of user-focused applications with analytics may seem simple,

open up the billing systems. Their persistent, proprietary nature makes it difficult to transfer valuable data into other systems so that data can be accessed efficiently. The status quo is to use a data dump, create a new database and use that database with other applications.

A highly integrated OSS with mediation layer can help cable companies operate more efficiently and address critical customer service issues. In today's highly competitive environment, cable operators must take strides to keep customers happy and operate lean systems. A properly implemented solution requires a long-term

Time to Look at OSS

BOTTOM LINE

Why look toward a highly integrated operations support system? Because it could provide more insight into the home, the network and actual services; enhance customer experience; improve system and workforce efficiencies; and make OSS applications better fit those who use them.

approach and careful consideration of important issues, such as buying or building new systems and analysis of current positions and future expectations. The result is a solution that integrates siloed software, provides visibility into the network, better utilizes human resources, and offers targeted problem solving for subscribers.

Integrated OSS

If that room full of disagreeable negotiators mentioned at the start of this article were able to work in a common language toward a highly integrated OSS, they could reasonably be expected to address the following areas for improved performance:

Network and home performance data.

CSRs typically have limited visibility into the performance of a customer's home and must rely instead on the customer's description of a problem. Decisions made without any broader visibility into the network can reduce overall productivity. Case in point: A CSR sends a technician to a house when there may be a larger problem impacting multiple homes. More intelligence into the network equates to more efficient use of people and other resources.

Service assurance data. A service assurance application would provide real-time information for the CSR to use when a customer reports a service problem. This tool allows the CSR to pull information from all devices in the home to diagnose where the problem is (or is not) and can alert the CSR on how to respond. This proactive approach uses software that continually monitors the network and looks at performance minute-by-minute so cable operators can respond before customers call, more accurately analyze a problem, and resolve the problem in one visit.

Customer experience. By providing a better system, cable operators can improve the

customer experience. When a customer has a problem, the first point of contact, the CSR, should have access to all of the information needed to address the problem quickly. Also, cable operators should continue to look into the self-service approach many industries have adopted. This could allow customers to handle billing setup or start/add/drop/discontinue service.

System efficiencies. Efficiency is often measured by silo-specific metrics. For example, if a CSR is concerned about meeting a metric of resolving a call in 30 seconds, the CSR has an incentive to schedule a truck roll. This is efficient for the CSR, but not for technicians. In this scenario, no matter how hard the technical operations group works, it will never consistently hit its own metrics. The CSRs look good; the technicians look bad. If we look at what can be done to prevent a problem, we begin to make progress. If the system knows there is a problem and something is done before the customer calls in, productivity increases. Looking at the end-to-end productivity, the CSR would not have to take the call, a dispatcher would not have to schedule a useless technician visit, and overall productivity is improved. But operators today tend to measure results by silo, not by looking at the big picture.

Workforce management. Another tool for greater efficiency is workforce management (WFM). (See related article on "Workforce Dispatch" on page 22.) Using an integrated WFM application lets cable operators schedule workflow to minimize the chances of two technicians being on the same street at the same time.

End-user focus. The system itself does not solve the problem. It has to be "operationalized." This touches on our earlier point about the lack of user-focused applications. To use any system, a cable employee must be able to easily navigate it and have what's needed to do his or her job. Too often, the usability factor is ignored when implementing purchased OSS software, and no efforts are made to embed the software into the business. This is what operationalizing is all about. Value creation takes time and commitment. It is not easy, cheap or fast. ↩

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Standards and TMN

Now that industry consolidation has slowed down, perhaps it is time to start focusing on standards for a cable industry OSS/BSS platform. Any standards developed need to consider current systems and future needs. Initially the standards should address user needs, integration and data sharing across legacy systems. With this capability, applications could be more effectively deployed to start improving the customer experience and overall productivity.

The cable industry has already used a model that is included in PacketCable OSS Overview Technical Report. This same model could be used to support expansion into other needs of the industry. That model is the Telecommunications Management Network (TMN) model developed by **Telcordia**. The TMN model can help establish the layers needed to effectively and efficiently design, create, and manage the complex networks cable operators are deploying. The TMN concept is an architectural framework for the interconnection of different types of OSS components and network elements. TMN also describes the standardized interfaces and protocols used for the exchange of information between OSS components and network elements and the total functionality needed for network management.

The five layers of the TMN Model are:

- ➔ Business management layer: Performs functions related to business aspects, analyzes trends and quality issues, for example, or to provide a basis for billing and other financial reports
- ➔ Service management layer: Performs functions for the handling of services in the network: definition, administration and charging of services
- ➔ Network management layer: Performs functions for distribution of network resources: configuration, control and supervision of the network
- ➔ Element management layer: Contains functions for the handling of individual network elements, including alarm management, handling of information, backup, logging, and maintenance of hardware and software
- ➔ Network Element: Manages switches, transmission and distribution systems