

Plan-to-Provision: Secure a Sound Business Foundation

Abstract

The plan-to-provision process tends to be out of sight, out of mind. In spite of the billions of dollars being spent on modernization, it often fails to attract operators' attention the way more prominent and measurable processes do, like order-to-cash. This white paper argues that plan-to-provision should not be allowed to fall "under the radar." It is the foundation for all telecom operations, with direct bearing on their costs and efficiencies, and there are steps that operators can, and should, take to achieve a plan-to-provision process that exerts positive impacts enterprise-wide.

Introduction: Working Undercover

When operators formulate “transformation” plans and institute best practices, we have observed that plan-to-provision is rarely placed at the top of the priority list. That’s surprising. It also represents an enormous, untapped opportunity, given the influence that plan-to-provision has on all other operations and its long-term, cumulative impacts on the balance sheet.

Plan-to-provision involves all the activities that go into preparing a network for a new service — planning, purchasing, deploying, and turning up physical and logical assets, including network equipment, servers, and content policy.

Plan-to-provision is all about efficient capital utilization — maximizing the capital investments that operators make to provide revenue-producing services. “Maximizing” investments means executing them with extraordinary efficiency, so they are chosen accurately, installed right the first time, and made profitable quickly.

For example, deferring capital spend by underbuilding (reducing the “capacity buffer” — the time from network commissioning to capacity exhaust) is risky, because, if a new network cannot be delivered expediently, it could have a huge impact on the ability to deliver services. On the other hand, the old attitude of “build it and they will come” is simply obsolete, considering the pace of network roll-outs and the money being spent, primarily on both fixed and mobile access, but also to shore up backbone. Given the sheer size of geography and expense, chronic overbuilding can sink a company.

The point is, to stay on top of today’s competitive pack, operators literally bet their futures on their plan-to-provision decisions and actions. Consider the case of one global operator, which, in just one year:

- Expanded its 3G network to hundreds more metropolitan areas and added thousands more WiFi hotspots to stay ahead of demand for mobility, speed, and data
- More than doubled the living units passed by its broadband network
- Completed an initiative to boost the speed of its Internet backbone across its entire network.

These are all strategic projects that fall squarely in the realm of plan-to-provision. The goal is to have the same level of capacity stock control that manufacturing has today on a production line, where the amount of spare capacity held for use is as small as possible, and the time to replenish it is very short. This is always a delicate balance, and, to achieve it within the network, you need sophisticated capacity monitoring and streamlined tactical planning processes.

Reconciling Perception and Reality

So why doesn’t such mission-impacting activity elevate the status of plan-to-provision when it comes to operational improvements?

Here are some hypotheses. Although capital spend is riskier than operational spend, has more lasting consequences, and, over time, eclipses annual operational spend because of the accumulating value of plant, its visibility is clouded by its relatively modest size and its indirect impacts on financial results in terms of depreciation expense. In fact, global, annual network-related capital spend is only about a quarter of the size of operating spend. Compared to fulfillment processes, plan-to-provision also typically involves a fraction of the people, process

hand-offs, systems, and work orders. In addition, plan-to-provision, which is performed by specialized technicians, is not easily understood by others, and the ability to fully automate its operations is more limited. As OSS Observer points out, “by definition, these [engineering] tools require a human interface.” (OSS Observer Service Fulfillment Market Review, April 2008)

In other words, it is likely that day-to-day perceptions of plan-to-provision mask the real magnitude of its importance. The fact is, financial security rests on capital programs, and operators neglect the plan-to-provision process at their peril.

Keeping the Ship Afloat

Plan-to-provision literally establishes the integrity of a telecom business. The reliability and efficiency of the network build informs — for better or worse — everything from marketing and sales to provisioning, repair, procurement, construction, finance, and customer experience.

Thus, lack of investment in and attention to the way that plan-to-provision is executed leaves telecom operations seriously out of balance. Other processes may be regularly upgraded to become more automated, flowthrough, best-practice operations, but too often they end up sitting on top of a plan-to-provision process that is slow, siloed, and still based on paper records and countless point systems. The state-of-the-art house ends up perched on an outdated foundation.

Case in Point

One large provider of both fixed and mobile services offers a perfect example. Because its wireline and wireless planning operations were separate, its process for building cell sites and the process for building out backhaul occurred independently — on different timetables and with different personnel and tools — and were, therefore, completely disjointed.

The result was not just inefficient capacity planning, but also major revenue loss from its most important offer, data services. Equipment costs for an average cell site were \$5,000 to \$30,000, and the company earned roughly \$130,000 in revenue per month from each site as soon as it went live. The problem was that each site took no more than 90 days to deploy, but backhaul connectivity, which involved significant manual labor using paper and spreadsheets, was taking as much as 18 months to deliver. Thus, the company was ending up with cell sites that were ready to go live, but sitting idle, waiting to be attached to fixed infrastructure and postponing hundreds of thousands of dollars in revenue.

The siloed nature of the company’s planning and engineering processes also took a toll on capacity assignment. Often, when backhaul was completed to a cell site, it delivered too much capacity, delivered too little capacity, and/or had been routed inefficiently. The company’s existing network was simply not being properly utilized.

This operator is hardly alone. We see issues all the time that can be traced to plan-to-provision: network analytics hindered by poor information on rates of network usage; capacity management suffering from poor visibility into existing thresholds; network planning fragmented across regions and technologies; network builds delayed by inefficient truck rolls; network commissioning disrupted by re-work; and critical records “owned” by one department that are not easily accessible to other in-house and field personnel.

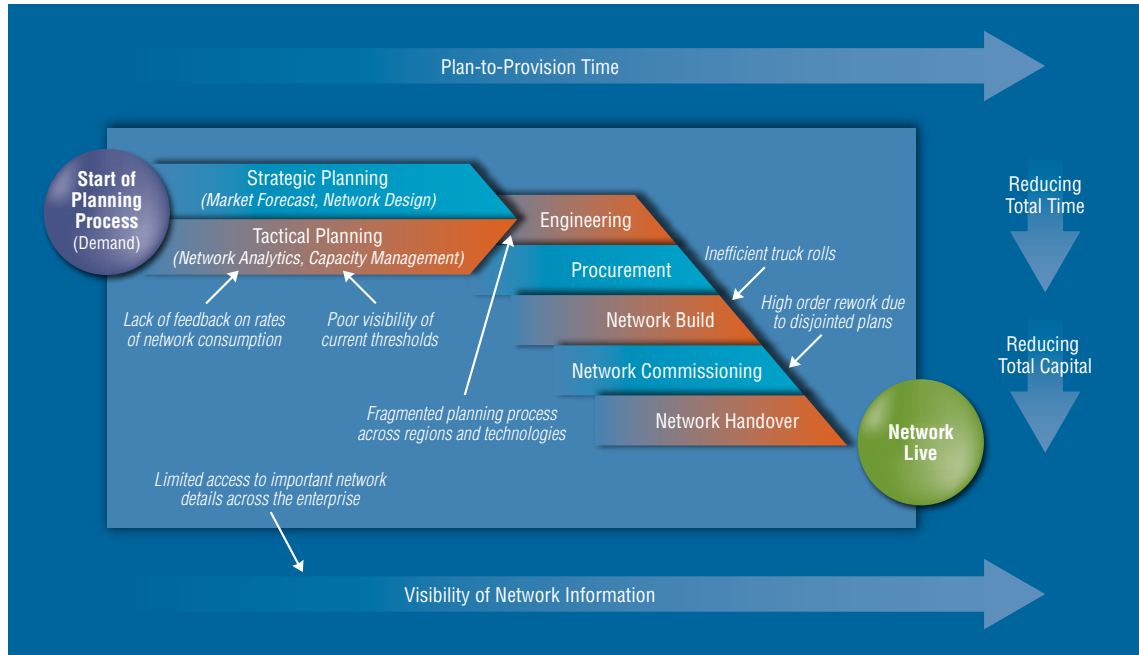


Figure 1 – End-to-End View of the Plan-to-Provision Process

These issues related to inefficiency and lack of coordination are not isolated to mobile operators that control their backhaul. We see them with mobile operators that must synchronize capacity planning and leased network connectivity with third-party, incumbent providers.

We also see them with planning and engineering for Fiber-To-The-Home (FTTH) when operators are installing the physical access network. Right-sizing and efficient provisioning directly impact the customer experience. But lack of coordination in the commissioning stage leads to rework, and it can cost four to five times more to fix a problem at that point in the process.

Building a Better Operational Substructure

There are steps that all types of operators can take to make plan-to-provision more accurate and efficient, so that existing assets and capacity are fully utilized, investments are profitable sooner, and re-work in the field is avoided at all costs.

Planning: Strategic planning must be step one. The goal is a design plan for a new service that considers geography, embedded and new technology, and exhaustive what-if scenarios to test network load assumptions. The plan must reach a judicious conclusion about what is needed on a local, regional, and/or national basis, to build on an existing network and roll out a service.

Engineering: Working from well-developed plans helps to ensure that procured assets are justified based on facility needs, availability, and timing of capacity, such as mobile backhaul, and synchronization of physical build with provisioning tasks. The ability to readily feed templates with equipment details for pre-approved vendors streamlines the work and makes procurement far more accurate.

Construction: With accurate information, construction is coordinated with contract management as well as public works matters, such as roadwork and joint-use of facilities, so that network build orders can be effectively completed.

Commissioning: Pre-turn-up testing should verify that the network can function according to plan, is properly connected, performs to quality specifications (such as those

for jitter and delay with FTTH), and network redundancy requirements have been met to ensure superior quality of service. It should also verify that logical assets are properly provisioned to support any trunking requirements; an example is Virtual Local Area Network (VLAN) path pre-provisioning for FTTx backhaul to video content.

Hand-Off to Operations: Ultimately, with proper planning, engineering, network provisioning, and testing, it should be a perfunctory process to have the build team hand the new network over to the operations staff that will manage and maintain the network going forward, and establish fault and trouble ticketing processes.

Fine-Tuning: After turn-up, downstream processes, like order-to-cash and trouble-to-repair, provide feedback mechanisms into planning at the more tactical level, so that adjustments can be made to the network design, for example to increase capacity/bandwidth. With feeds related to capacity management coming from provisioning, maintenance, and strategic planning, planners use analytics and forecasting techniques to fine-tune the network. This brings the process full circle.

All of these efforts to modernize plan-to-provision so that it is more automated, flowthrough, and coordinated can benefit from robust systems backed by expert consulting, all of which are available today.

Network-neutral operations systems can automate many aspects of network planning and engineering, fulfillment, and service assurance. Independent technology is a boon to network lifecycle management, because, whether you are dealing with mobile backhaul, FTTH, or any other network domain, they allow all planners to use the same processes and tools, so they can harmonize activities and seamlessly share information.

Similarly, expertise in analytics and forecasting, new services and technologies, cross-domain integration, data management and migration, and quality of service and measurement can provide invaluable perspective and guidance.



Figure 2 – Benefits of a Comprehensive Approach

Conclusion: The Benefits Truly Flow Through

In spite of all the process metrics generated in our industry, there is a widespread assumption that it is difficult, and even unnecessary, to measure the value and efficiency of plan-to-provision. But our plan-to-provision experiences with operators around the world have produced results that serve as convincing justification for the time and effort expended. These results demonstrate that the benefits of next generation plan-to-provision systems and processes permeate organizations and continue to be felt over the long term. They include:

- Discovery of assets not listed on paper records and reduced capital outlay with a 20% reduction in capital budget for new network builds
- Reduced time for planning and engineering thanks to modeling and work processing tools that reduce planning cycles by 25% to 40%
- Construction savings, including as much as 75% fewer pre-site surveys, due to more accurate facility views, fewer design iterations, less redlining, and reduced need to seek clarification from designers
- Fast time-to-market with 40% average reduction in fulfillment time
- Efficient field operations and time-to-repair, including 30% less time for new equipment installations and 25% reduction in dispatches for both initial service orders and multiple dispatch incidents, thanks to enterprise-wide access to data with accurate, multilayer, geospatial views.

There is ample evidence to show that, when plan-to-provision is done right, it means maximal use of capital assets, efficient planning and engineering, and surprising downstream productivity. It means a secure, solid business foundation.



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