

CommScope Professional Services— managed staff augmentation

Extending service provider resources for widespread launch of user interface enhancements

When it comes to home entertainment, video is king and TV still reigns. To help preserve the leadership they've established with their video offerings, service providers are continuously innovating to enhance the in-home experience they offer to their subscribers. But for every new investment they make, service providers must be sure to keep costs in check. This can be particularly challenging when it comes to the personnel needed to support UI/UX and CPE upgrades at scale.

When a service provider has millions of set-top boxes installed across the country, efficiently upgrading the customer experience for all subscribers is a big challenge, especially when it needs to be done all at once. This solution brief takes a behind the scenes look at how service providers can supplement their workforces to upgrade equipment and deliver enhancements to a large installed base—without straining budget and resources.



Solution benefits

CommScope Professional Services—managed staff augmentation

- **Staffing as needed**
A project-by-project workforce gives the flexibility to easily add resources for certain projects
- **Experience and expertise**
Talented IT specialists support a wide range of deployment projects
- **Reduced management**
Custom training and detailed material enable rapid onboarding

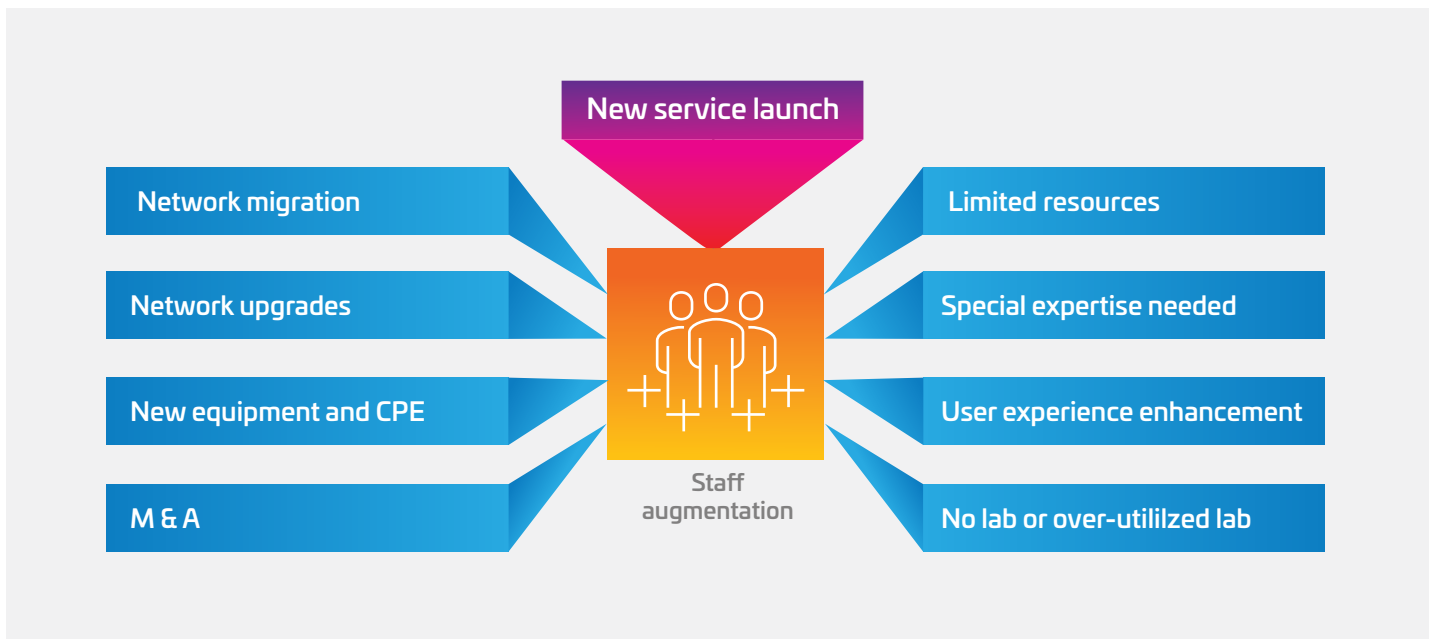
The problem: set-top box UI/UX innovation to meet customer demand

With all of the new and creative ways to interact with video and content through apps on smart phones and devices, consumers have come to expect those same rich experiences on their TV screens. When remote devices came on the scene to control the user guide, people arrowed up and down or entered a channel number to select a program. With the transition to digital, the user guide has become more than a simple listing. Now, there are channel logos and mosaics for easier searching, summary information for movie selection and voice activation that replaces

channel surfing. All of these new features and capabilities require upgrades to the set-top boxes in order for the consumer to take advantage of the improved experience, and for the service provider to maintain its leadership position in video.

The impact: Deploying user experience enhancements proves cost-prohibitive

The video guide advancements continue. The set-top box interface now offers more interactive options, embedded video for movie trailers, targeted advertising capabilities and voice control. As service providers consider delivering the next wave of user experience advancements across



their installed base, they are faced with the need to render rich experiences with limited processing power on legacy set-top box hardware, leading to the possibility of needing to replace millions of set-top boxes at a cost of hundreds of millions of dollars, and with a limited workforce. But, the alternative—an outdated user experience—is not an option. It could drive the perception that the company is not forward looking or innovative, which spells disaster in the home entertainment industry. One thing is certain. Service providers can't ignore the fact that the consumer demand for this type of experience needs to be met, or subscribers will seek out alternatives fast.

A real-life example:

A cable operator serving millions of customers had a multi-vendor set-top box environment, and its aging equipment did not have the CPU/GPU processing power necessary to render a modern, rich UX natively on the set-top box. The operator recognized that it needed to deliver a next-generation interface with a consistent look and feel across its fragmented CPE environment, which comprised multiple unique set-top box models from different vendors. Aside from taxing the budget and consuming valuable time, replacing each and every set-top box would require the cable operator to pull existing staff off core business responsibilities, undoubtedly causing disruption to subscribers. Fortunately there was another option. By using the cloud, the cable operator could render the user guide in HTML5. It's an innovative approach that leverages

the investment in existing set-top box hardware while delivering the new functionality to the subscriber. However, it requires lots of integration with cloud applications which becomes more complex with a varied set-top box landscape. The deployment requirements would be many.

The cable operator had recently acquired many markets from other operators, resulting in different backend and headend configurations with variations in the video headend, which impacted VOD and PPV services, as well as digital controllers. This scenario required each deployment to be heavily customized. To make matters more complex, the cable operator had limited visibility into the many different configurations in each market. Realizing that no matter how costly and daunting this deployment could be, it was necessary to move forward with the project to retain customers, attract new subscribers and remain competitive.

The cable operator forged ahead, using its existing staff to gather the information from each market, one by one. Needless to say, the process was slow and arduous. But the operator didn't waiver on its commitment to enhance the quality of experience for its subscribers while trying to extend its investment in the existing set-top boxes. There would be another way. The cable operator called on CommScope to help launch its enhanced user guide in 36 markets within one year, without draining its budget or depleting its human capital.

Behind the solution: CommScope Professional Services—managed staff augmentation

Managed Staff Augmentation is part of CommScope Professional Services with expertise in scaling multiple teams into national footprint programs for the largest service providers.

The first phase of the Managed Staff Augmentation service is to identify the CommScope program leadership team made up of senior leaders who are experienced in executing large video systems integration programs for global providers. The leaders interface with the cable operator to gather project requirements and then define the technical approach, scope and plan, which includes determining the required skill sets for the supporting teams, number of resources needed, ramp-up strategy and program timeline.

The need for specialized knowledge and skill sets would typically make it extremely difficult and time consuming to find the right people for the job. However, CommScope leverages its deep bench and strong supply chain of contractors to curate only the best candidates with the relevant industry experience. CommScope subject matter experts span legacy cable all the way to software engineering and DevOps. It's these experts who interview candidates using their backgrounds in specific areas of technology to find the best people. This part of the process is a CommScope advantage because many consulting firms are not also technology companies, and therefore don't have the knowledge base needed to resource candidates effectively.

Within a matter of days, CommScope assigned senior architects to serve as program leaders who were responsible for the initial discovery phase: gathering data and the set-top box configurations in each market. The architects were able to quickly determine that there

were more than 30 different set-top box models across all of the markets that would require software updates. Once the core leaders gained the customer's confidence in the program plan, CommScope expanded the role to include more than 50 resources including DevOps engineers, network engineers, cloud automation engineers and deployment of set-top box validation engineers in each market to evaluate upgrade scenarios.

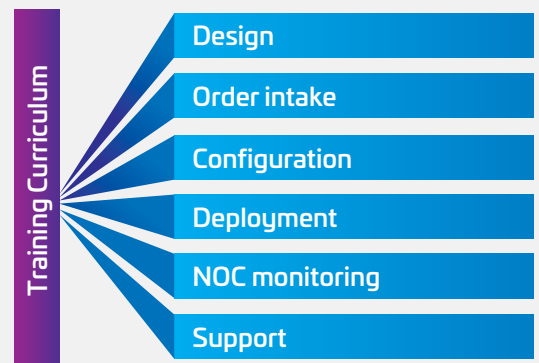
Unique to the CommScope Managed Staff Augmentation service is the rapid ramp-up that can take as little as two weeks, accelerated by a managed onboarding phase. This phase includes a detailed training program to educate the newly recruited staff on the customer's problem statement, the CommScope project plan, and the architecture and systems involved. The comprehensive training and assimilation of new technical resources by the leadership team also enables CommScope to efficiently structure the support teams. As identified during the managed onboarding phase, a few key resources are appointed as support team leaders who are an extension of the leadership team. These people assemble their own teams and provide continuous guidance and support throughout the lifecycle of the project. These staffing and training best practices allow the customer to rely on the governance provided by CommScope, alleviating the resource management responsibility so regular staff can focus on business as usual activities.

Once the ramp-up phase was completed, the team quickly put procedures in place to automate the aggregation and analysis of configuration data from each market, enabling them to accurately and efficiently establish the requirements for new software. With this intelligence now in hand, the CommScope architects devised a plan to deploy unique software builds of a new user guide to multiple markets simultaneously, at a rate of six to eight markets a week.

CommScope custom onboarding

For rapid resource onboarding and productivity

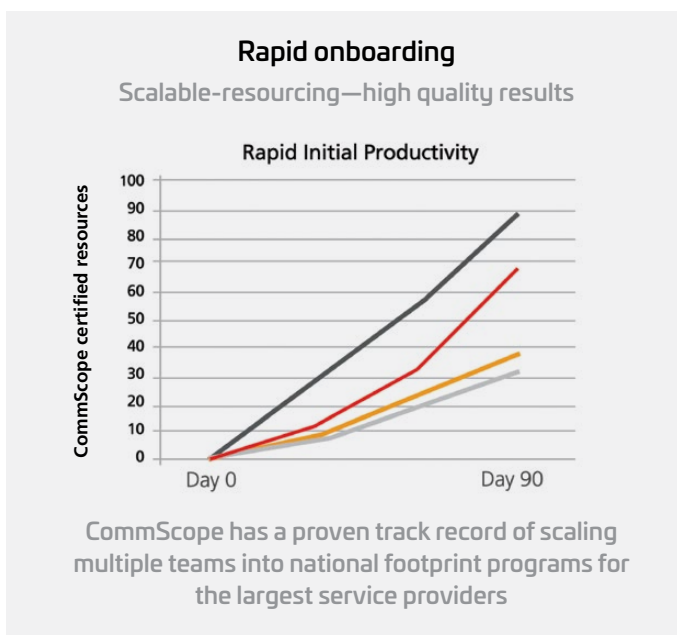
- **Reliable curriculum**
 - Defined jointly with customer; created in parallel with preparation for program launch
- **Quick ramp-up**
 - Customized resources and materials for different functions (e.g. order intakes vs. support, etc.)
- **Detailed Playbooks**
 - Documented for specific procedures



Ensures repeatability, consistency and quality

The result: A new user experience is launched on time and on budget

With experts on the ground across the installed base, CommScope test engineers conducted in-market validation of the new features and measured QoE at cutover to complete the successful launch of the new user guide. The accelerated and parallelized market deployments were accomplished seamlessly for an optimal end user experience, and with minimal CapEx investment for the cable operator.



The cloud rendering capability in the software upgrades enables the user guide to seamlessly deliver the user experience using the transport each individual set-top box requires, such as MPEG 2. This upgrade made it possible for the cable operator to protect its investment in millions of set-top boxes, extending their useful life as well as much of the equipment in the operator's network.

The cable operator was able to meet its objective to reach all 36 markets in approximately one year; an achievement that could not have been possible without the resource expertise and workforce elasticity provided by the Managed Staff Augmentation service. Since the successful user guide launch, the operator has enlisted the same services for additional projects such as deploying new video operations and integrating nDVR and DOCSIS® capabilities.

CommScope: behind the solution

To explore how the CommScope Professional Services team can help augment your staff to complete major projects in a timely manner, contact your account manager today. We'll help you add expert resources as we handle the onboarding, management and logistics, so you can devote more time to delivering on your product roadmap.

Visit commscope.com/professional-services/custom-software-and-integration/

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