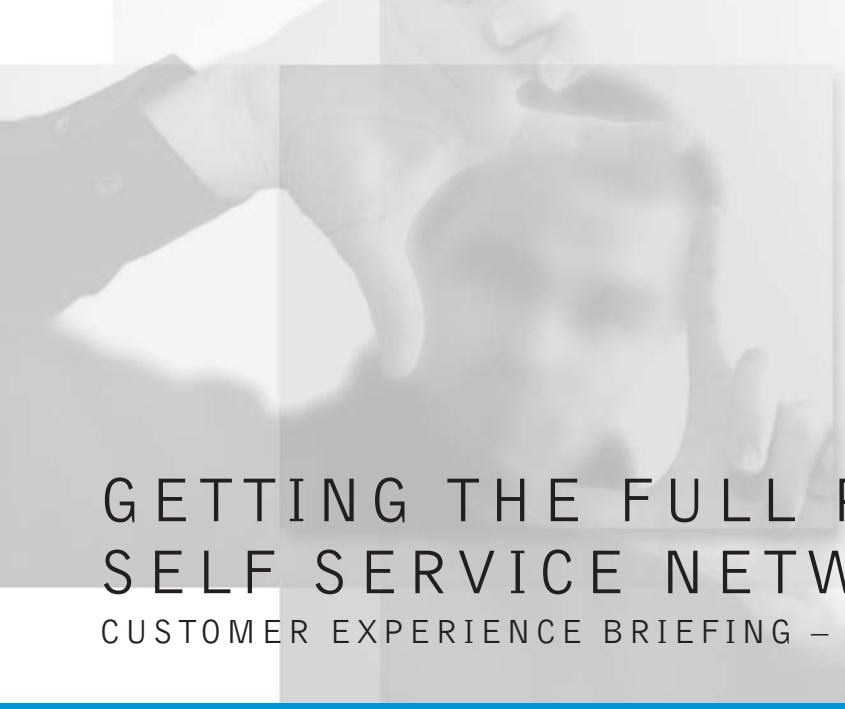

# GETTING THE FULL PICTURE: SELF SERVICE NETWORK OPERATIONS

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*Innovation in operations is increasing at an unprecedented rate as service providers transform to meet the demands of providing new services quickly, cost effectively and at high volumes. As automation in operations increases, this means that service providers have the opportunity to give their customers more direct control over their own network services via self service portals.*

*In the past, the complexities of delivering services over a shared infrastructure have made this impossible in all but a few very defined areas.*

*In this paper, Cramer, Amdocs OSS Division highlights issues and challenges in enabling network operations through corporate self service portals.*

## WHY SELF SERVICE?

Traditionally, when a large corporate or a partner service provider buys network access from a network services provider, all they get is the network and a contract. Typically, they get no visibility to, or control over, network operations. This is far from ideal, particularly when the company's own services are completely dependent on that infrastructure.

Providing self service operations is about helping service providers to make their own services more innovative and more "sticky." Self management has the potential to offer a powerful source of differentiation. But the complexities of enabling self management in a shared infrastructure environment has been a major technological hurdle.

How much control would differentiate a provider? At the very least, if the provider was able to show a 'glass box' or a transparent view of network services contracted, it would provide a more meaningful customer experience. Just this first stage of visibility would provide reassurance to a customer that they were getting what they paid for.

While visibility is important in its own right, arguably what customers really seek is the ability not just to see their network but to interact with it. For customers, one key issue is solving their own problems. For example, "I have an immediate problem: denial of service attack. How do I overcome this issue as rapidly as possible?" Currently, solving this kind of problem is typically done via a phone call to a subject-matter expert, who then must gather information, log onto a variety of systems and perhaps act directly on the network to solve the problem. If the provider can take that chain of activity away, then the customer is getting a better experience. By giving the company the ability to solve its problems internally, resolution can be reached much more quickly. But also, the operator is removing confusion and operational cost.

## ISSUES FOR SELF SERVICE NETWORK OPERATIONS

Due to the underlying complexity of shared infrastructure services, service providers need to introduce self service functionality gradually. We've identified four key issues to consider:

1. Being able to project a viewable version of the network in a secure way is a prerequisite to being able to manipulate it. Up to now, most service providers have struggled to find a secure way to project a partitioned view of that shared infrastructure network to one or more of their customers.

2. Our experience is that, where self service access to operations is provided, the ability to trace what is happening is just as important as security. Self service is seen as immediate, a one-step transaction, but, as with all operations on the network, things do fail or fallout. The service provider needs to take account of all the standard processes that would be performed for any form of provisioning or delivery of a service, because regardless of who initiates these processes, the same challenges arise. For example, there's no reason why in self service, two users could not be trying to do the same thing at the same time.

3. Commercial security for the service provider is a key issue. The inventory is the "keys to the kingdom" within the service provider. Giving customers the ability to alter their service configuration directly without the proper controls in place means that customers could potentially help themselves to more capacity than they are contracted for.

4. For network services, the information that you're providing access to is not exclusive to one customer. A service provider provides all of its network and services on a shared infrastructure. Therefore, Bank A wants to be assured that Banks B, C and D (or anyone else, for that matter) cannot see its network. So portal security, operational security and informational security are key prerequisites to self service, not just with regard to malicious access, but also from competitors.

In addition, from a systems perspective, self service increases the number of access points to your software and this raises scalability and performance challenges.

## UNIQUE CHALLENGES IN SELF SERVICE OPERATIONS

**Shared Infrastructure**
With self service operations, challenges arise from the shared nature of network infrastructure. For example, if a service provider gives a customer access to the network from a customer location to the first edge of the network, then there's no problem in showing the customer their own router, or the transmission and physical infrastructure getting the customer from that router to the first location in the network.

The problem comes at the first device in the network. The customer's service is probably connected to one port on one card on one device. There are tens if not hundreds of other ports on that device. Some of those ports may have several customers on them. For self service, the service provider needs to be able to demonstrate that the customer has touched a device, and has a port but does not want to show the customer any other configuration data for that device.

From there, the problem gets more complex, because deeper into the network, everything is shared. Therefore, network service visibility is a complex matter of being able to show the customer a combination of their own physical and logical elements, as well as a view of a "misty cloud" which represents the rest of the network. And service providers must do this in a way that allows everybody to perceive the misty cloud without being able to break from their piece of it into somebody else's part of that cloud.

**The Right Functions**
In self service operations it is necessary to define appropriate language and appropriate interactions for a customer to use. Customers need to be able to interact via self service at the level of their service requirements, without needing to know what the underlying technology or technology constraints might be.

As a consumer-based example, everyone has come to understand the term 'DSL' to refer to internet access, and customers refer to the service 'internet access' as DSL. But DSL is actually a very particular technical means of delivering bandwidth over copper. The customer needs to be able to specify the service without specifying the technology that delivers it. To continue the example, if a customer wants guaranteed delivery of the Manchester United game at 8pm over IPTV without any service interruptions, then that's what the customer should be able to request. The customer shouldn't have to specify this in technical terms as "I want to configure my network to have 2 Mbps extra capacity between these two hours at a defined Class of Service."

For a customer, this is desirable because it means the customer does not need to be a telecoms expert to buy and configure services. Presenting options and configurations customers can interact with helps them get what they want and understand the value of their services. For a service provider, this is desirable because then the service provider can negotiate to provide services contractually, and then make technical decisions as to how to provide that service separately, giving the service provider the freedom and flexibility to meet contractual obligations at lowest cost.

**Who Benefits**
With self service, rather than the service provider just providing a 'black box' network service, customers would be able to at least see their own network. Customers for whom this would provide an enhanced experience include medium size enterprises, all the way up to the large corporates, and perhaps most particularly for trading partners who sell communications services on top of the network.

For all users, the goal is to allow customers to handle routine activity, while engaging service provider subject matter experts for more complex issues.

**Self Service and Operations Management**
Where the question of self service arises, the question of how self service changes existing in-house operational processes arises. In our view, operations where self service network operations is enabled is not significantly different to 'classic' operations. Self service introduces an additional 'type' of user, which might have a different set of interaction constraints and some different performance constraints. But self service operations presents fundamentally the same issues to service providers as its own internal operations. Namely, service providers need to be certain about what they're provisioning, they need a clear view of the network that they're provisioning via the inventory, and they need a clear view of process, both 'sunny day' but also 'rainy day' – because things do fail and there needs to be process for what to do in that case. The key point is to recognize that automation to support self service is not fundamentally different; it needs the same infrastructure and the same solid architecture that service providers need to implement in the rest of their provisioning and assurance network.

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## LISTEN AND LEARN MORE ABOUT SELF SERVICE

Amdocs offers podcasts, white papers, briefings and product information on customer experience and self service corporate customer needs for business and operational support systems. The podcast and white paper entitled, "Getting the Full Picture: Self Service Network Operations" can be downloaded now from the Amdocs web site (www.amdocs.com).

## ABOUT AMDOCS SELF SERVICE

The Amdocs Multi-Channel Self Service Solution combines industry-leading Amdocs software applications, focused implementation and systems integration services, and business consulting services that help service providers optimize the performance of self service channels. With more than a decade of experience in self service, Amdocs is a recognized leader in self service for corporate and residential customers of the world's leading service providers.

**ABOUT AMDOCS**

Amdocs combines innovative software and services with deep business knowledge to accelerate implementation of integrated customer management by the world's leading service providers. By delivering a comprehensive portfolio of software and services that spans the customer lifecycle, Amdocs enables service companies to deliver an **intentional customer experience™**, which results in stronger, more profitable customer relationships. Service providers also benefit from a rapid return on investment, lower total cost of ownership and improved operational efficiencies. A global company with revenue of $2.48 billion in Fiscal 2006, Amdocs has over 16,000 employees and serves customers in more than 50 countries around the world.

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Cramer, Amdocs OSS Division, enables service providers to manage the transformation of their OSS and profit from the convergence of business support systems (BSS) and OSS systems. Service providers benefit from the automation of critical customer-centric processes – such as fulfilment and assurance – from the customer to the network, which allows them to accelerate revenues from new service offerings.


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