

## CASE STUDY

### BRIDGEWATER SYSTEMS ENABLES TIER-1 SERVICE PROVIDER'S ENTERPRISE CUSTOMERS TO ADMINISTER THEIR OWN REMOTE-ACCESS SERVICES

***“INCREASE REVENUES AND DECREASE COSTS” — WHEN A GLOBAL TIER-1 TELECOMMUNICATIONS SERVICE PROVIDER DISCOVERED THAT BRIDGEWATER SYSTEMS COULD HELP IT ACHIEVE BOTH FEATS WITH A SINGLE PLATFORM-CONVERGENCE SOLUTION, IT WAS MORE THAN INTERESTED.***

#### **MOBILE WORKFORCE REQUIRES FLUID ACCESS TO CORPORATE NETWORKS**

To meet the needs of its enterprise customers and their employees, this Service Provider offered a host of remote-access services based on different access technologies: Digital Subscriber Line (DSL), Wi-Fi, dial-up, and Code-Division Multiple Access 2000 (CDMA2000), a digital cellular technology. When away from the office, enterprise end users would employ these methods to access their corporate networks. For instance, an employee working from home might use the DSL client, and someone traveling in Europe might use the dial-up client.

This approach created three challenges. First, end users found it confusing to have

to use a variety of access methods, each with different log-on procedures, passwords, and user interfaces. As a result, enterprise IT departments wound up fielding numerous calls from frustrated users, which increased administration costs.

Second, this complexity discouraged enterprises from subscribing to multiple remote-access methods. Enterprise IT departments shied away because they feared overtaxing their already thin resources. Why invite problems from disgruntled users? This reluctance limited the Service Provider's opportunities to expand remote-access service revenues, by offering a number of access technology alternatives to the same customers.

And third, administering four different remote-access services was costly. The Service Provider had to simultaneously manage four separate databases, or information silos, one for each access method. These databases held all the

subscriber provisioning information — security authentications, subscriber credentials, passwords, user names, and entitlements to services. Consequently, when an enterprise customer wanted to add or delete an employee or change someone's access privileges, for instance, the Service Provider would have to update this information manually in each database separately. This process was laborious and expensive (see Figure 2).

For these reasons, the Service Provider wanted to remove the vertical service silos and install a common remote-access authentication platform. A common platform would allow the company to better manage its existing services and easily add new ones. The Service Provider also wanted to make it simple for people to use the various remote-access services — the first step toward increasing remote-access revenues.

## BY REMOVING ITSELF FROM THE LOOP BETWEEN ITS NEW CONSOLIDATED NETWORK DATABASE AND THE ENTERPRISE IT ADMINISTRATORS, THE SERVICE PROVIDER REDUCED ITS CALL-CENTER TRAFFIC BY 40%. THIS REDUCTION TRANSLATED INTO APPRECIABLY LOWER STAFFING, TRAINING, AND OPERATING EXPENSES.

### REMOTE-ACCESS CONSOLIDATION CUTS SERVICE PROVIDER ADMINISTRATION COSTS

After considering its options, the Service Provider discovered that only Bridgewater Systems could centralize the authentication of the four remote-access services using a single, easy-to-manage platform. By implementing its AAA Service Controller, Bridgewater Systems collapsed the Service Provider's four databases into one. This single platform handles the authentication, authorization, and accounting (AAA) of services across all of the Service Provider's remote-access types: DSL, Wi-Fi, dial-up, and wireless (CDMA2000).

Based on the Internet Engineering Task Force (IETF) RADIUS standard, the AAA Service Controller allowed the Service Provider to substantially reduce administration costs. Now when an enterprise customer wants to add or delete a user or change someone's access privileges, this modification occurs not four times, but once. The complexity is exponentially reduced.

But that's only part of the cost-saving story. By capitalizing on Bridgewater Systems' User Administration Tool, the Service Provider can allow enterprise customers to make these changes themselves. In other words, now when customers want to add remote-access users or reconfigure user privileges, the enterprise IT department does this work online itself using a simple graphical user interface (see Figure 1). Whereas the Service Provider used to manually modify up to four access service

databases, now the company has no involvement at all.

This hands-off approach presents two main advantages. First, it reduces the Service Provider's administration costs. And second, it enables enterprises to match their remote-access solutions precisely to their needs — solutions that they themselves now control — which bonds them tighter to the Service Provider.

### ENTERPRISE IT DEPARTMENTS GAIN INCREASED CONTROL

It may seem counterintuitive, but IT departments welcome this added administrative responsibility because it spares them from navigating through the Service Provider's call center whenever

The screenshot displays the GoTelecom User Administration Tool interface. The main content area includes sections for 'Sub Departments and Organizations' and 'Users'. A table of users is visible, with columns for Login Name, User Name, Organization, Domain, Status, Implicit Status, and Commands. Callout boxes highlight various features: 'Add corporate branding', 'Bulk load new users', 'Delegate administrative functions', 'Assign service profiles based on job function or department', 'Edit user information', 'Access reports', and 'Move users'.

Login Name	User Name	Organization	Domain	Status	Implicit Status	Commands
ew_basic	ew_basic	GoTelecom	null	active	active	
geeti	geeti_bawa	GoTelecom	null	active	active	
helpdesk_user	helpdesk_user	GoTelecom	null	active	active	
janie_brown	janie_brown	GoTelecom	null	active	active	
kEvans	kolene_evans	GoTelecom	null	active	active	
sonjai_gupta	sonjai_gupta	GoTelecom	null	active	active	

FIGURE 1 With Bridgewater Systems' User Administration Tool, enterprise IT departments can add or delete remote-access users or change an employee's access privileges using a simple GUI. This puts enterprise customers in control and greatly reduces administration and support costs for the Service Provider.

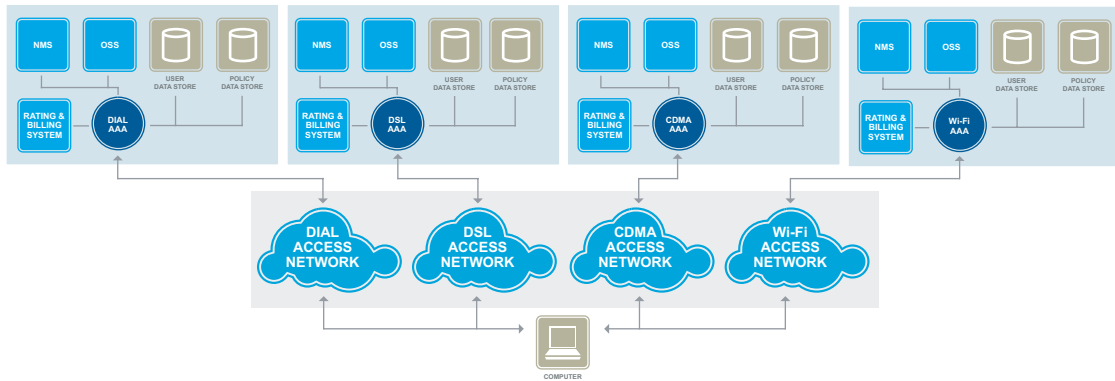


FIGURE 2 SERVICE PROVIDER NETWORK – PRE-BRIDGEWATER IMPLEMENTATION

Before Bridgewater installed its AAA Service Controller solution, the Service Provider's network consisted of four database silos for each of its remote-access types: Dial-up, DSL, CDMA, and Wi-Fi. When changing a user's access privileges, the Service Provider had to modify each database individually, a time-consuming and complex endeavor.

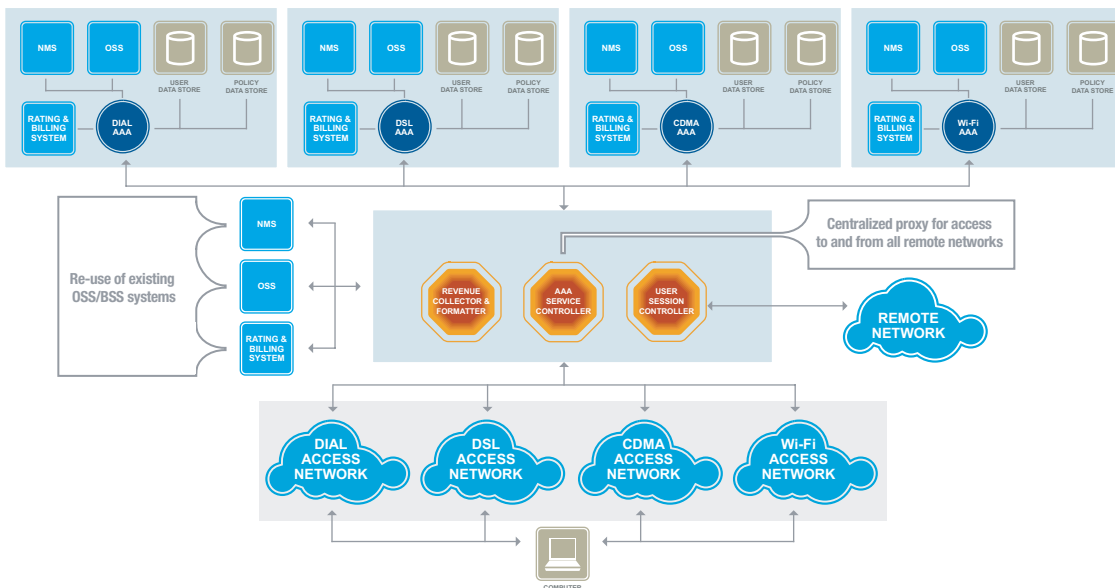


FIGURE 3 MIGRATION TOWARDS CONVERGED BRIDGEWATER SYSTEMS SOLUTION

Bridgewater initially added a new platform to the Service Provider's existing network that included its Revenue Collector and Formatter, User Session Controller products, and AAA Service Controller solution. Each remote-access system was replaced one at a time, tested, and then decommissioned.

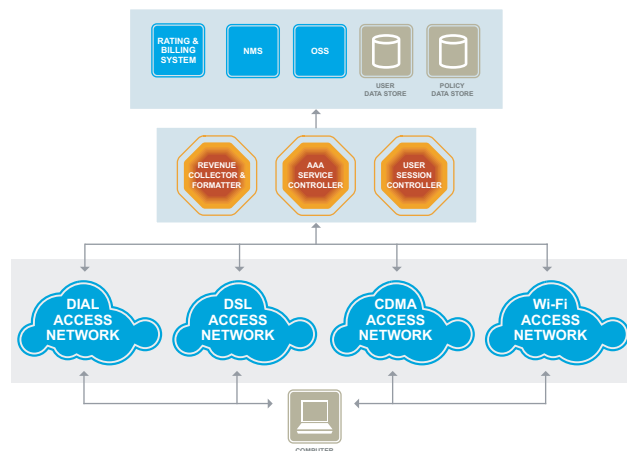


FIGURE 4 FINAL RESULT – CONVERGED AUTHENTICATION SOLUTION

By integrating all four access services with a single authentication solution, the Service Provider was able to streamline network administration, reduce costs, and easily launch new services from a single platform.

## IT DEPARTMENTS ARE SPARED FROM NAVIGATING THROUGH THE SERVICE PROVIDER'S CALL CENTER WHENEVER THEY WANT TO MAKE A CHANGE. THE ENTERPRISE IT ADMINISTRATORS CONTROL THE CONFIGURATION PROCESS NOW, WHICH SIMPLIFIES THEIR JOBS AND ALLOWS THEM TO RESPOND MORE EFFECTIVELY TO EMPLOYEES.

they want to make a change. The enterprise IT administrators control the configuration process now, which simplifies their jobs and allows them to respond more effectively to employees. And they can take advantage of templates and features in the User Administration Tool that make managing users much more straightforward.

For instance, profiles can be set up so that everyone in, say, the sales department automatically receives the same access services, which may differ from those of people in another department. Or maybe senior managers automatically receive specific access privileges. An enterprise can even assign administrative privileges to various sub-groups or departments, giving them control of their particular domains. Regardless of how it's employed, the User Administration Tool equips enterprises to update user information quickly and easily.

And yet the Service Provider gave up none of its control. The company still dictates precisely what enterprise IT administrators can do with their respective systems and to whom they can do it. This capability allows the Service Provider to control the creation of administrators or the creation and deletion of subscribers. But by removing itself from the loop between its new consolidated network database and the enterprise IT administrators, the Service Provider reduced its call-center traffic by 40%. This reduction translated into appreciably lower staffing, training, and operating expenses.

### BRIDGEWATER SYSTEMS MATCHES SERVICE FUNCTIONALITY

The project required that the new consolidated authentication platform match the functionality of the old databases. For instance, the Service Provider wanted to ensure that no more than one person could use a given user name and password when calling its dial-up network. Without this restriction, multiple people could fraudulently use the same log-on and password to access the network and rack up huge long-distance charges. In such a case, the Service Provider would end up paying for these charges. To avoid this problem, Bridgewater Systems employed its User Session Controller, which allows the Service Provider to detect and stop multiple sessions on its dial-up network.

Bridgewater also implemented its Revenue Collector and Formatter to centralize collection of usage information. Now rather than manage several individual systems feeding into billing, the Service Provider manages a single system to correlate and aggregate accounting records across all access services, which further streamlines administration.

### METHODICAL SERVICE-MIGRATION PROCESS REDUCES RISK

Bridgewater switched over each access type in sequence, and the entire process took about six months. Typically, one of the existing access systems would be taken down overnight and the Bridgewater Systems platform installed in its place. This replacement platform would be tested for a couple of weeks and then the legacy system would be decommissioned. Then Bridgewater would move on to the next access service and repeat the process. These changes were made transparently to users and IT administrators (see Figure 3).

Once all four access services were integrated into one platform, the Service Provider launched its consolidated authentication system (see Figure 4).

At that point, the enterprise IT administrators received their new user interfaces and their new control capabilities.

Concurrently, enterprise employees also received a new easy-to-use access-selection interface, which was provided by a third party. End users just click on the access type they want using a simple graphical user interface, and the system automatically configures the access. This convenient solution addresses the Service Provider's objective of making it extremely easy for enterprise employees to use remote-access services. The simple interface is also predicted to reduce enterprise customer-care expenses by 30%. That's because now if end users have trouble configuring their remote accesses, they have only one number to call rather than three.

## FAST RESPONSE TO LAST-MINUTE CHANGES WINS PRAISE FOR BRIDGEWATER SYSTEMS

As the project implementation deadline neared, the Service Provider requested a number of changes that tested Bridgewater Systems' ability to respond. For example, when moving the dial plan — the last of the four access services — from the old database to the Bridgewater Systems platform, the Service Provider discovered some long-forgotten features that the new system needed. As well, in midstream the Service Provider requested changes to certain security provisions, which also had to be incorporated.

By putting one of its engineers at the Service Provider's premises and assigning developers to respond to change requests after the platform's software code had been delivered, Bridgewater Systems accommodated these and other modifications and still met the customer's timelines.

"The most important thing was that we were able to deliver on time even though we introduced last-minute changes," said a manager of product development with the Service Provider. "There was never a time when someone from Bridgewater Systems said, 'Forget it; I can't do it.' Our relationship was much more on a partnership level than a vendor level, and it was probably one of the best relationships I've ever had here in service development. I couldn't have asked for anything better than that."

## SERVICE PROVIDER GAINS VALUABLE FUTURE BENEFITS AS WELL

Bridgewater Systems helped the Service Provider streamline network administration, cut costs, and improve customer service. But these benefits are by no means the only ones the Service Provider can expect from its investment. The Bridgewater Systems solution will provide numerous future benefits as well:

- > A single, easy-to-manage platform to rapidly launch new services using any access technology.
- > A standardized approach for managing existing and new services that reduces time to market, training, and support costs.
- > The ability to consolidate other networks across other services; this flexibility comes from the fact that Bridgewater Systems' solutions interoperate and integrate with any access technology.
- > A single platform to manage feeds into a variety of systems: customer-management provisioning, billing, and configuration management; this single platform simplifies managing these systems and saves time.

### BRIDGEWATER SYSTEMS

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### HEADQUARTERS

303 Terry Fox Drive, Suite 500  
Ottawa, Ontario  
Canada K2K 3J1

Phone: +1 613 591 6655  
Fax: +1 613 591 6656

### EUROPEAN OFFICE

200 Brook Drive, Suite 102  
Green Park, Reading, Berkshire  
United Kingdom RG2 6UB

Phone: +44 (0) 118 925 3298  
Fax: +44 (0) 118 925 3299

### ASIA PACIFIC OFFICE

04-13 Technopreneur Centre  
Block 1003 Bukit Merah Central  
Singapore 159836

Phone: +65 6276 3447  
Fax: +65 6270 3781

### U.S. OFFICE

3959 Electric Road, Suite 357  
Roanoke, Virginia  
United States 24018

Phone: +1 540 772 3103  
Fax: +1 540 725 1067