



SWIFTNet CONNECTIVITY via
“SERVICE BUREAU”
BCG, Business Computer Group





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INTRODUCTION

As part of its corporate policy **S.W.I.F.T** has established the medium term objective of triple the number of SWIFTNet users, and the reduction of costs is the corner stone of this strategy which aims to increase the number of small and medium size institutions with more competitive options to access SWIFTNet. The “Service Bureau” is the S.W.I.F.T. strategy to achieve this goal, since its philosophy is based in total cost of ownership reduction, operative impact simplification and minimizing the financial terminal investment, along with its maintenance costs and communication infrastructure, offering at the same time several complementary alternatives for network connectivity, all these supported by economy of scales principles.



BCG, Business Computer Group, the SWIFT Business and Service partner for Northern Latin America, aligned to this corporate strategy is pleased to offer the following alternatives to connect to SWIFTNet through its Business Partner Service Bureau, which grants access to SWIFTNet FIN, among others SWIFTNet services. BCG offers connectivity options to banks located in several countries; from Mexico to Peru, plus the Spanish, French and Dutch Spoken islands of the Caribbean. It is important to stress this “Service Bureau” is based upon the SWIFTAlliance suite of products, such as Access, Gateway, Browser and SWIFTNet Link.



The Services offered in this proposal were designed to satisfy the operative of institutions looking for secure, low cost, fault tolerant and permanent connectivity to SWIFTNet; these services are established from the “Service Bureau”, either with the approach of a Alliance Workstation user or taking advantage of the SWIFT Alliance Gateway functionalities, RAHA, for those institutions who already have SWIFTAlliance Entry/Access licenses. The connectivity services are prepared to meet Disaster Recovery events, according to the SWIFT requirements.

Last but no least, it is important to mention BCG Business Partner Service Bureau has been approved by the “SWIFT Board of Directors”. Also it is audited and supervised by “third party” companies contracted by SWIFT, therefore meeting the criteria and conditions specified in the enclosed document “Service Bureau Policy”. Please note this Service Bureau is operated by the staff of engineers of Business Computer Group, which has been certified by the SWIFT “Service Partner Program” and also by the its Education Department. All of the above allow us to affirm our services meet the highest industry standards of quality.

“SERVICE BUREAU” DEFINITIONS

A “Service Bureau” is a center approved by SWIFT with the objective of granting access to the SWIFTNet InterAct, FileAct, Browse and FIN services. This last one, SWIFTNet FIN, allows the “on line”, real time, financial message exchange between institutions through a Multi Vendor Secure IP Network, MV IP-SIPN, architecture.

Additionally to the others SWIFTNet services, BCG Service Bureau offers SWIFTNet FIN connectivity to those institutions willing to exchange financial messages.



“SERVICE BUREAU” TECHNICAL FEATURES

This service center distributes its processing among its “Sites” located at Panama and Caracas, offering independent and complementary SWIFTNet connectivity, Technical Failures resistance and Disaster Recovery proved. Each site has available “Production”, “Back Up” and “Test and Training” environments.

- **Servers** : 12 model X5570 XEON Processor, 2.93 GHz, 8 M Cache, Turbo, HT, 1333MHz, 4 GB Memory, 1066 MHz Single Ranked UDIMMS, Dual Processors. PERC 6/I SAS RAID Controller, PCIe 256MB Cache, 250 GB 7.2K RPM SATA 3.5” Hot plug Hard Drive.
 - Six (6) licenses of Alliance Access Live, Standby, Test & Training
 - Six (6) licenses of Alliance Gateway Live/Live .
 - Six (6) licenses of SWIFTNet Link (SNL): MIA /PTY/ CCS
- **HSM**
 - 12 HSMs (Hardware Security Modules) for the storage of Digital certificates
- **Power Supply**
 - (MIA/ PTY/CCS) have their own source of electricity (UPS)
- **SWIFTNet Connectivity:**

There are three Access available:

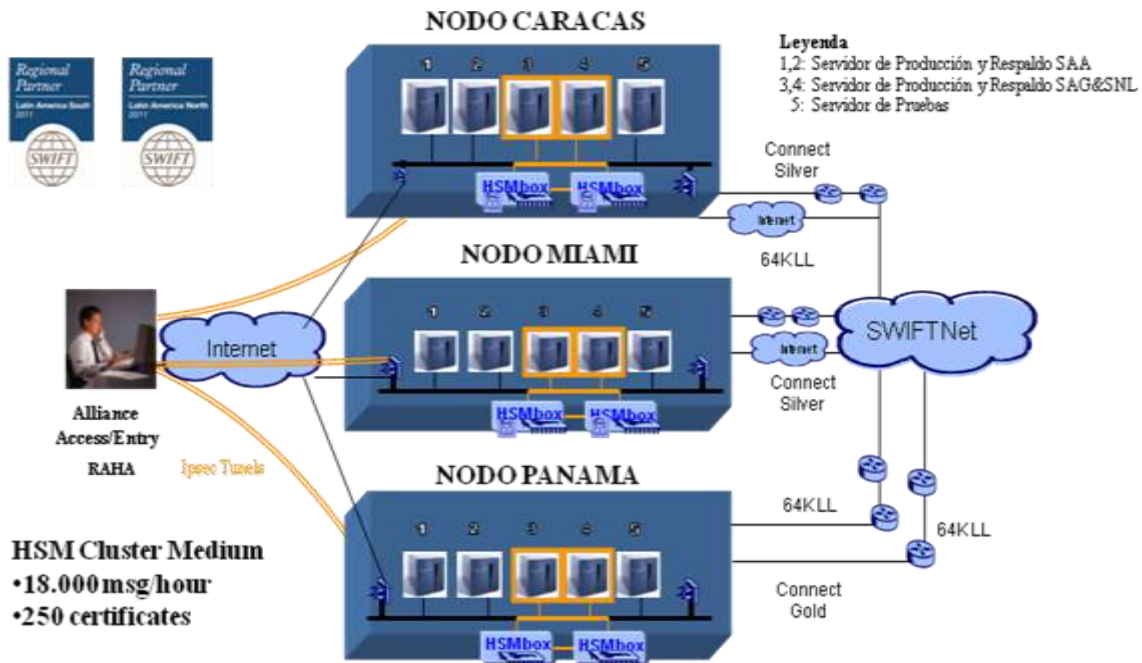
 - PTY: ALLIANCE CONNECT GOLD (INFONET).
 - MIA: ALLIANCE CONNECT SILVER (ORANGE)
 - CCS: ALLIANCE CONNECT SILVER (AT&T).
- **Internet:** (4) Four independent and complementary ISPs. PTY: 2 with 512K BGP each, (1) one in MIA with 1024K. and one in CCS with 1024K.
- **Network Partners:**
 - **PTY: INFONET.**
 - **MIA: ORANGE.**
 - **CCS AT&T**

Since the disks are configured for “Disk Mirroring”, failures recovery capacity is very powerful, also the “Hot Swap” technology allows them to be removed dynamically, making easier the maintenance and increasing the tolerance, obtaining as a result a resilience environment.

The Servers are protected against unauthorized user access by a couple of high availability Firewalls/VPN connected through a Master/Slave approach, via NSRP protocol. Both security equipments create a protected zone, which unique access is enabled by virtual tunnel IPSEC.

At Panama's site the Internet access is accomplished through a permanent 1024K bandwidth link, shared by two different Internet Service Providers (ISP), with a couple of routers connected using BGP protocol to dynamically balance the sessions of users, allowing high availability and creating an ISP failure tolerance connection. At Caracas Site the access is reinforced with an additional third ISP.

The Service Bureau is located in buildings with own power supply, with maximum external failure recovery capacity of 15 minutes. Also each of its sites has its own UPS with capacity of two hours of internal energy supply, which give operations autonomy from the external source.



CONNECTIVITY INFRASTRUCTURE

As consequence of the SWIFTNet migration, one of the factors to watch carefully is how the network connectivity is implemented and which connectivity option is chosen, accordingly it is extremely important to select a configuration resistant to potential Network partner's communication failures. The Dual P model proposed by SWIFT was created to support failures related to communication lines at VPN box level. Complementary the Single P model brings permanent connection in order to implement the MULTILINE connectivity mode, designed to be Disaster Recovery proved.

BCG Service Bureau sites are supported by a mixed scheme of Dual P and Single P communication model, implementing a MULTILINE access of three dedicated channels with a bandwidth of 64K each one, with communication routers, Firewalls and VPN boxes for creating "Secure Tunnel". For BCG Panama's Dual P site, the VPN Boxes are interlinked and constantly performs "hand shake" verification procedure; accordingly in case of failure of the primary connection channel, instantaneously the idle channel automatically takes control of the connection.

Both sites are connected to SWIFTNet in ACTIVE-ACTIVE mode through two different Network Partners, which makes the Service Bureau also tolerant to failures at this level, being the traffic of messages concurrent at BCG premises.

OFFERED SERVICES

1. SWIFTNet connection for new users

SWIFTAlliance Workstation: Within this option the financial institution installs at its facility a permanent connected workstation to the “Service Bureau” through two Internet based, IP Sec VPN tunnel. In order to protect the access to the “Service Bureau”, each user has installed two Firewalls/VPN boxes at his SWIFT Alliance workstation to create virtual tunnels towards the SWFT Alliance Server. On the other hand, the Service Bureau has three different secure internet access connection supplied by three different Internet Service Providers which offer high availability resilience scheme; and supports redundant communication channels from the SWIFT Alliance Access server to the SWIFT Alliance Workstation, located at the customer premises. Vis-à-vis the customer, it is highly recommended to contract two independent Internet Connection with different ISP’s to implement among them BGP protocol.

The Message Creation, Verification, Authorization Process, Message print, Login/Select to SWIFTNet FIN, Creation, Deletion or Modification of Pre Agreement, and the SWIFT Messages exchange is performed at the workstation session. The BKE environment preparation for the authentication of messages, as well as the certificates administration must be performed from the Service Bureau Alliance Access Server.

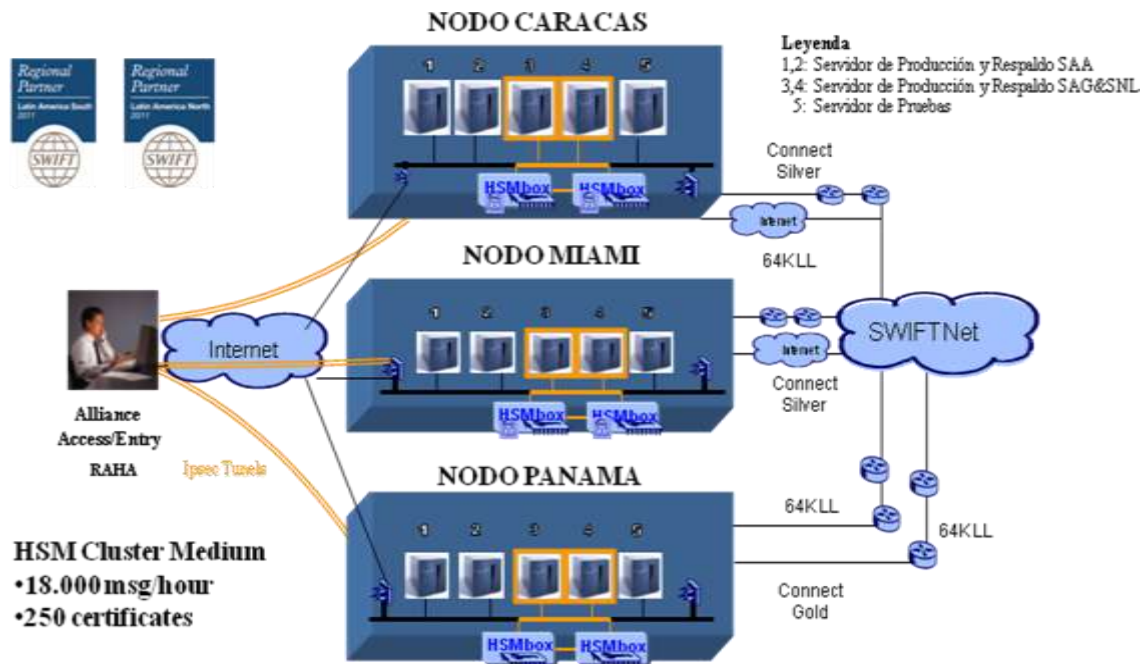
It is important to mention that on daily basis, the BCG Panama and BCG Venezuela Alliance Access servers perform asynchronic replications for the data base, accordingly after the “end of day” processes both servers are equalized.

2. SWIFTNet connection for SWIFTAlliance Entry/Access users

This option is recommended for those users who already acquired SWIFT Alliance Entry/Access and wish to reduce the connectivity cost, leveraging at the same time the SWIFTNet technical infrastructure. The SWIFTNet link and SWIFTNet Access Port are discarded, along with their recurrent annual fee; and replaced by the SWIFTAlliance Gateway “Remote Api Host Adapter” RAHA component, which enables the financial message exchange from the bank to SWIFTNet, via the Service Bureau, lowering the cost and securing the permanent connection. In this option the financial institution is permanently connected to SWIFTNet FIN through two internet based IP Sec VPN tunnel, created by two VPN boxes from its premises to the Service Bureau facilities. Vis-à-vis the customer, it is highly recommended to contract two independent Internet Connection with different ISP’s to implement BGP protocol.

The Message Creation, Verification, Authorization Process, Message print, Login/Select to SWIFTNet FIN, Creation, Deletion or Modification of Pre Agreement, Sending/Receiving of SWIFT Messages and BKE environment preparation are performed within the SWIFT Alliance Entry/Access of the bank. The certificates administration as well the message routing to each users is responsibility of the Service Bureau.

It is important to highlight that the message exchange among the SWIFT Alliance Entry/Access and the SWIFT Alliance Gateway is protected by a VPN Virtual Tunnel plus the Firewalls and security certificates, which grant access only to authorized users.



CUSTOMERS INSTALLED BASE FIGURES November 2012

- a. Connected Banks: **136**
 - i. Production: **135**
 - ii. Implementation phase: **1**

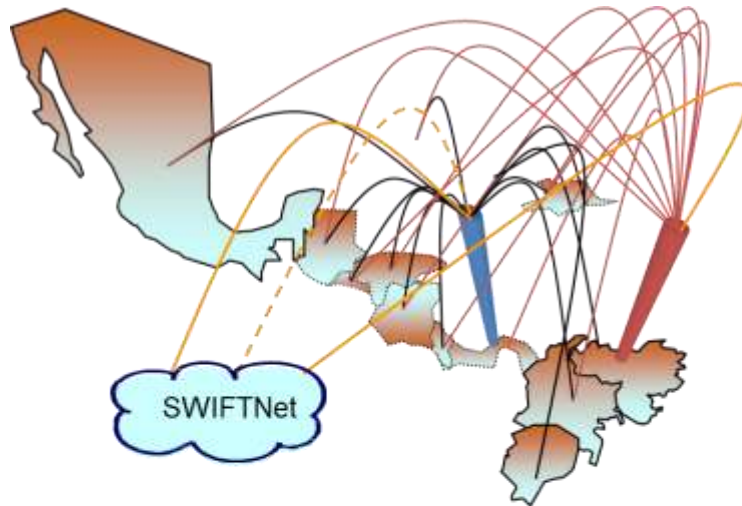
- b. Daily traffic x Bank:
 - i. Lower Level: **100 msg x day**
 - ii. Higher level: **2,000 msg x day**

- c. Service Bureau daily traffic: **11,500 messages**

- d. Centrals Banks Connected: **5**

- e. Países Conectados: **16**
 - i. Norte América: **1**
 - ii. Centro América: **7**
 - iii. Sur América: **2**
 - iv. Caribe: **6**

Belice		Guatemala	México	Republica Dominicana
Cayman Island	Curacao	Haití	Miami	Nicaragua
Costa Rica	El Salvador	Honduras	Panamá	Venezuela



ANNEX



SOCIETY FOR WORLDWIDE INTERBANK FINANCIAL TELECOMMUNICATION

10 July 2003
BS-bm

BCG, Business Computer Group
Panama, S.A.
Mr. Felipe Rios
Executive Manager
World Trade Center, 53 Rd. Street
6th Floor, Office 605
PANAMA CITY
Panama

Dear Sir

We are pleased to advise you that the Board of Directors approved on 10 July 2003 the application of BCG as a not majority owned Service Bureau. However, please advise the name of the users to whom you will offer services, as these have to be communicated to our Audit Department.

Yours faithfully



Brigitte Moens
Board Secretariat



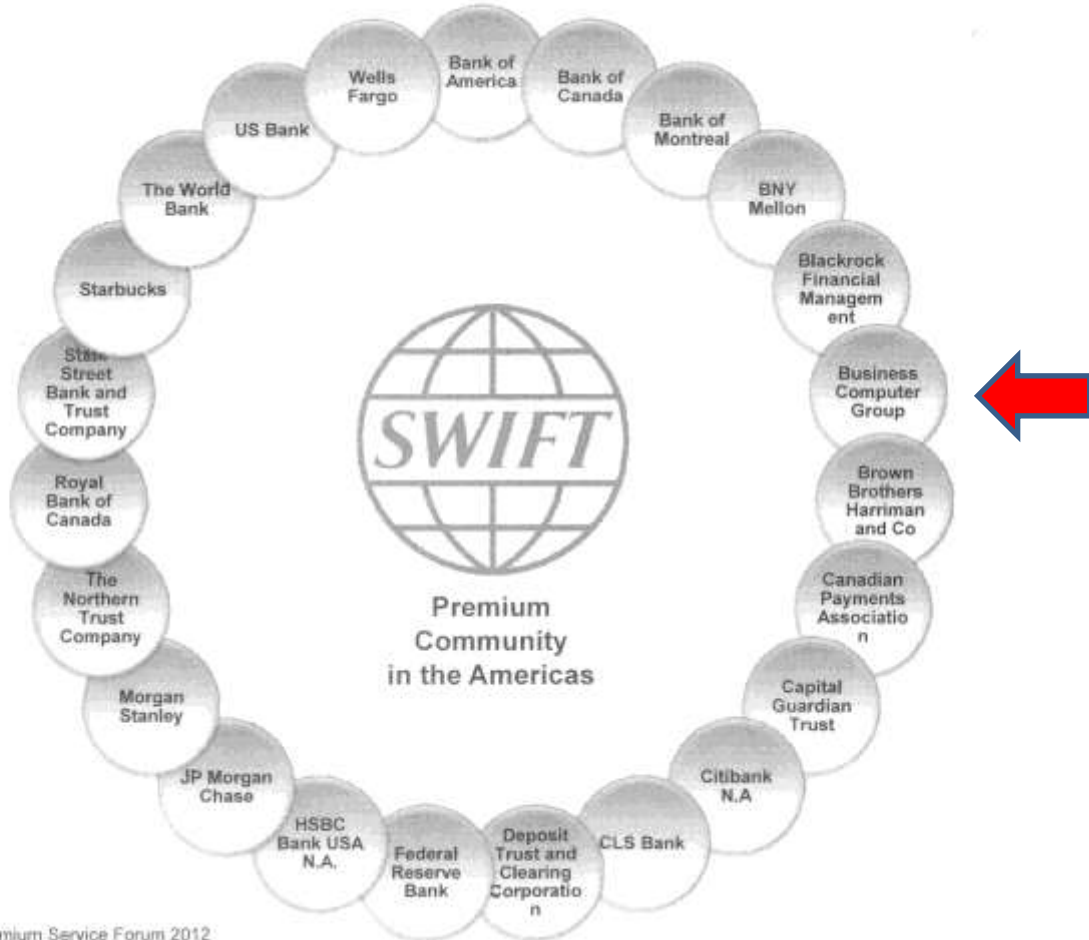
Martine Loosen,
Manager, Board Secretariat

copy: Mr. H. Quintero, User Group Chairman, Banco Internacional de Costa Rica S.A.
Commercial Operations Services

SWIFT S.C.R.L.

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