

# Building stock exchange interconnectivity in Southern Africa

**Vipin Mahabirsingh**, Managing Director of CDS Mauritius and Chairman of the Interconnectivity Project Sub-committee at the Committee for SADC Stock Exchanges (CoSSE), talks to Bob Currie about plans to establish hub and spoke connectivity between trading platforms in SADC and beyond

COSSE, a consortium of stock exchanges for the South African Development Community (SADC) states, has set in place a project designed to provide interconnectivity between execution venues in the SADC region and in selected other markets in Africa. CoSSE's objective is to create an integrated real-time network of national securities markets, linking stock exchanges via a hub and spoke model that will enable investors in each country to trade on all participating exchanges via their local broker.

The Consortium has proposed a hybrid model that will enable local brokers to connect to the hub in two ways: either via their local stock exchange; or by linking directly to the hub through different connectivity options, including virtual private networks (VPN).

The project is designed to bring a range of benefits to participating markets. It will make SADC exchanges more visible and accessible to foreign investors: the hub and spoke model will provide global players



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with a single point of access to the different markets in SADC. It will diversify the range of investment products available to investors in SADC countries by providing a simple, low cost channel through which they can buy and sell securities listed on African trading platforms outside of their home market. For issuers, this will extend the constituency of investors that can purchase the company's securities via their local stock exchange, while obviating the need for issuers to meet demanding and costly cross-listing requirements in order to extend their securities out to investors in multiple African markets. The cross-linking of the SADC exchanges will also help these exchanges to overcome the structural constraints that tend to limit their growth.

### Historical background

Since its formation in 1997, CoSSE has seen a number of attempts by participating exchanges to extend trading co-operation including a proposal by the Johannesburg Stock Exchange (JSE) in the late 1990s to extend the JSE's trading technology out to other exchanges in the region.

Though the virtues of interconnectivity have been well recognised by CoSSE members, some exchanges have remained cautious about entering

systems, unless they explicitly take the decision to enter into platform sharing arrangements with a partner. Exchanges will retain their own listings – and each jurisdiction will continue to regulate its own issuers and brokers according to its own national legislation. Participating exchanges will trade and settle in their own currency and securities will be held in custody in the market in which they are registered. Thus, the formation of a Common Monetary Area is not a pre-requisite for the project, nor is it considered within the project remit. Market data from each exchange must be visible internationally in order to support cross-border trading of stock. However, participating exchanges will retain freedom to dictate the commercial arrangements that they have in place for disseminating market data when the hub and spoke model is finalised.

It is this combination of regional collaboration and operational and regulatory autonomy that underpins why the CoSSE Interconnectivity proposal came into being. Within South Africa, the JSE introduced electronic trading in 1996 and STRATE initiated its drive for dematerialised settlement in 1999. Mauritius has supported dematerialised settlement since 1997 and the market adopted electronic trading in 2001. For some African exchanges, how-

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into platform sharing arrangements, fearing that this may result in loss of independence and ultimately in platform consolidation, with the JSE potentially emerging as a single consolidated stock exchange for the SADC area.

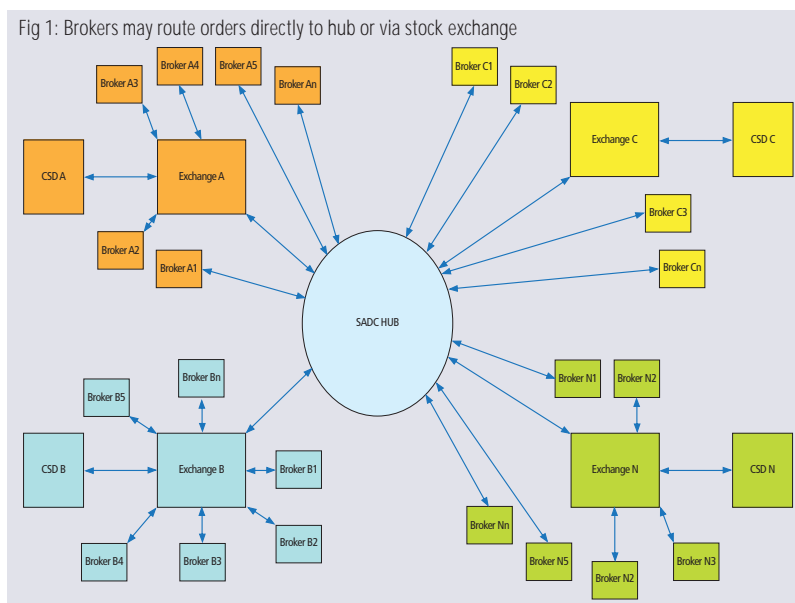
Many SADC states attach considerable importance to retaining their own national stock exchange and a regulatory framework whereby local issuers and local brokers are supervised by their own national financial regulator. With these national interests at play, some CoSSE members have registered lukewarm enthusiasm for embracing the JSE trading system – and believe that the proposed interconnectivity project provides a welcome alternative that preserves national autonomy and supervisory control. Participating stock exchanges will retain their own independent trading, clearing and settlement

ever, their existing business models have realised limited profit that can be reinvested to finance a move to electronic trading and settlement automation: in some markets, the brokerage fees charged by brokerage firms tend to be relatively high, while the exchange is generating limited revenue through trading fees and data dissemination that can be redeployed to finance enhancements to trading systems and post-trade infrastructure.

In the face of these financial constraints, several participating countries have been supported in their drive for electronic trading and dematerialised settlement through development finance from government or from multilateral development agencies. In Botswana, the national government extended funding for the development of a central securities depository, recognising that this commitment was essential to

the development of the Botswanan capital market. In Tanzania, the World Bank extended finance to support development of the financial infrastructure. In Zambia and Kenya, these developments were financed largely by capital raised privately through the local capital market. In Mauritius the automation of trading, clearing and settlement was financed by the stock exchange and other local players.

“Exchanges realise that to attract cross-border investment they require infrastructure that meets with international standards – but it is important that they have access to solutions that are sufficiently low cost to fit with the comparatively modest trading volumes and investment budgets supported by many of these venues,” says Mahabirsingh. In this situation, cross-border collaboration between exchanges makes good sense. “With these provisions in place, we are collectively better placed to stand firm against global competition, which is confronting stock exchanges at all levels in Southern Africa and beyond,” he adds.



From a technical standpoint, a challenge in appointing a suitable technology provider for the inter-connectivity hub is to find a solution that can deliver

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**Delivery model**

With a hybrid model in place, CoSSE aims to meet the variegated connectivity needs of exchanges and brokers across the SADC region. Some exchanges predict that their broker members will prefer to route orders to the hub via the exchange, rather directly to the hub via VPN. The CoSSE template extends this option, although exchanges may be required to have a FIX engine in place to support this facility. Other regional exchanges may be disinclined to meet the investment costs of installing a FIX engine and their brokers will route orders directly to the hub via the Internet or otherwise (Fig 1). Another option would be for brokers to route orders through the local exchange at the network level, but without needing to go through any FIX engine at the local exchange.

both arms of the hybrid model, providing a hub facility that will support orders routed from brokers directly or via the local exchange. The RFP process to select an appropriate solutions vendor is likely to be completed by November 2008, with the full business case ready for presentation to the CoSSE board by June 2009. In parallel with these developments, CoSSE is expected to finalise a funding proposal to be sent to the World Bank, the European Union and other potential sources of development finance by April 2008. Subject to receiving necessary approvals and funding, the project is scheduled to be implemented within 12-18 months.

To support the hub and spoke model, each broker (Broker A) that wishes to trade cross border must appoint a broker agent (a Responsible Broker,

Broker B) in each market in which it wishes to trade (Fig 2). The responsible broker will fulfil local exchange membership requirements and will support settlement of Broker A's trades at the local CSD. Securities will subsequently be held locally in a designated account at the depository (eg Broker B – Sub-account Broker A – Investor A). Thus, if a Mauritian broker wishes to trade equities on the Botswana Stock Exchange and the Dar es Salaam Stock Exchange, for example, it is not necessary for the Mauritian broker to be a stock exchange member in each jurisdiction. Rather, it will appoint responsible brokers in each location that will provide access to the exchange and will facilitate clearing and settlement in the local market.

For a stock exchange to become part of the hub and spoke interconnectivity project, the basic requirement is that it has an electronic trading system in place. This provision is currently satisfied by five out of 11 exchanges in SADC, with only Malawi, Mozambique, Swaziland, Zambia and Zim-

babwe currently failing to meet this pre-requisite. Botswana has recently set-up a central depository and will soon start the implementation of an automated trading system.

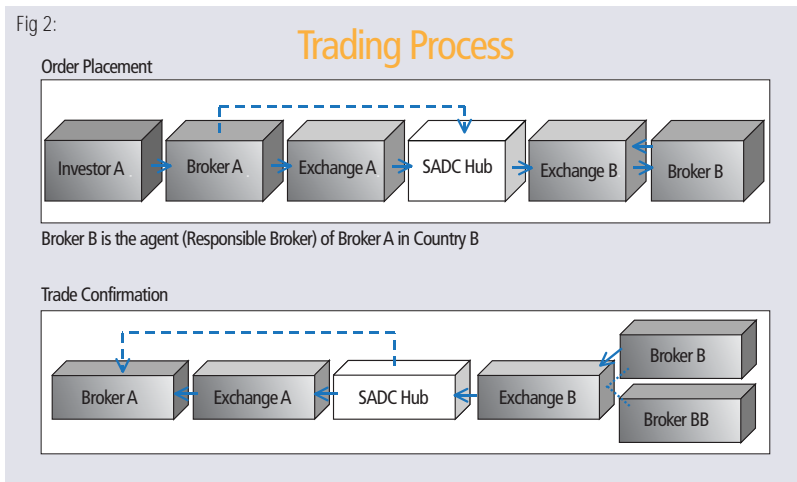
Although a number of SADC exchanges do operate comparable trading technology and CSD systems (Sri-Lanka based Millennium Information Technologies has supplied trading and CSD systems to several SADC markets for example), the interconnectivity project is designed to be technology agnostic. Orders and market data will be transmitted across the hub and exchanges using FIX protocol, with FIX being the glue that holds the connectivity solution together.

Depending on the solutions vendor selected, the hub may be delivered as a hosted service with participating members paying a monthly fee or annual licence fee for use of the facility. Alternatively, participants may create a joint venture company that would purchase the solution from the vendor outright, potentially supported by development funding from an external agency. The CoSSE board will then agree on a location that will host the hub for the project.

A virtue of the proposal is that it will extend facility for investors in the region to trade a range of listed securities beyond their local exchanges, with the participating exchanges setting in place a revenue sharing model that will compensate them for extension of the service. For issuers, this will be a cheaper and more convenient option than cross-listing stock across multiple exchanges; and for smaller, less liquid markets, it will allay fears that trading activity in prominent local companies may be concentrated in more liquid stock exchanges offshore. For companies that seek cross-listing opportunities, the JSE has recently established its Africa Board, its forum for blue chip non-South African companies listed on the JSE.

CoSSE is first and foremost a collaborative initiative across SADC exchanges. In times ahead, the project team will review opportunities to extend participation from other African exchanges in sub-Saharan Africa. Participating countries will also evaluate whether there is a business case for extending linkages between their respective CSDs, either through an independent project or through ongoing initiatives such as Link-Up Markets that has been explicit about its ambitions to embrace new CSD entrants around the world. ■

Fig 2:



Broker B is the agent (Responsible Broker) of Broker A in Country B

Fig 3:

