State Street Corporation: Evolving IT Governance

Peter Weill and Richard Woodham

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Abstract: State Street, a world leader in financial services, has more than 20 entrepreneurial business units which continually identify customer needs and create new products and services, usually heavily IT dependent, often leading their industry in time to market. To enable these businesses, State Street invests between 20 and 25% of total operating expenses in technology and technologists. To maximize the business value from these IT investments requires the creation of an IT governance framework that harmonizes all IT governance mechanisms (e.g., committees, IT organization structure, approval processes) to maximize return from the IT investment. This case explores how State Street redesigned its IT governance to enable a major change in the firm’s strategy.

Key words: IT governance, IT architecture

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On a sunny afternoon at the end of November 2001, the leadership team of State Street Corporation met to finalize the IT budget for 2002. The executives made up the Information Technology Executive Committee (ITEC) and included the COO, the CAO, the CIO and senior executives responsible for State Street’s various business units.

The ITEC has been meeting every two months to review the broad IT strategy of the corporation, but this meeting was the first time that IT budgets would be reviewed on an enterprise-wide basis. Individual business leaders would be required to balance IT priorities and budget requirements of their businesses with IT priorities and budgets enterprise-wide. As John Fiore, Executive Vice President and CIO, explained, this approach had far-reaching consequences:

“The corporate target for growth of IT spending should be viewed as an aggregate number. This does not mean that each group can only grow at that rate, but that if business head wishes to grow their spending more, the group has to figure out how to offset that spending somewhere else in their business or across the enterprise.”

In 1998 Fiore was promoted to CIO of State Street from his former role as CIO of State Street Global Advisors (SSgA). During the first three years as CIO Fiore guided the IT organization through Euro conversions, Y2K and considerable growth in the business. During 2001, Fiore and his CIO staff initiated significant IT governance changes in support of newly appointed State Street Chairman and CEO David Spina’s client-focused vision of “One State Street.” At internal meetings during 2001, Spina explained “One State Street.”

“You’ve heard me talk about ‘One State Street.’ That term describes how we must work together to serve our clients. When clients look at State Street, our organizational lines must be completely invisible, and behind this seamless face, we must have industrial-strength lines of communication connecting every part of the company.”

Traditionally, State Street had operated as a set of business units focused on Investment Research & Management, Trading & Brokerage Services, Fund Accounting and Custodial Services.

“One State Street” embodies the strategic imperatives described by Spina at the 2001 annual meeting.

“First, we will continue to enrich our relationships with existing clients. We understand that as our clients grow and succeed, we will grow and succeed. So
taking care of existing clients is our first priority. Second, we will continue to grow our client base outside the United States. World markets offer almost unlimited opportunity for investment managers and servicers, and our leadership in U.S. markets gives us an advantage over our competitors. We’re very excited about the growth we saw last year—particularly in Canada, Luxembourg, the U.K. and Japan. Last but not least, we will seize our advantage in e-business. We already have an advantage with regard to technology. We see e-business as part of a profitable business model—providing better service, more choice, more use of State Street products and more revenues.”

Changes to the IT governance structure were expected to play a key role in encouraging the new set of desirable behaviors required for “One State Street.”

**Company Background**

State Street is a world leader in financial services providing investment services, investment management, trading and research, to investment managers, corporations, mutual funds, pension funds, unions, not for profit organizations and individuals. At the end of 2000, State Street had $6.1 trillion in assets under custody and $711 billion in assets under management; 17,600 employees worked out of 23 countries serving clients in over 90 markets. (For more financial information see Exhibit 1, State Street Financial Results.). State Street is the number one player in each of the following markets: servicing of US mutual funds; servicing of US pension assets; management of US pension assets; number one provider of foreign exchange services worldwide; and, through State Street Global Advisors, is the sixth-largest investment manager in the world.1

Globally, State Street is one of the leading users and developers of information technology, committing on average 20-25% of operating expenses to technology and technologists. Information delivery systems such as State Street Global Link® and In~SightSM, and electronic trading platforms such as FX Connect®, LatticeSM and Equity Connect® provide clients with the critical systems designed to meet the needs in today’s challenging financial markets. Computerworld magazine recently voted State Street one of the top 20 places to work in information technology for the fourth time in five years. Reflecting on the importance of IT, Marshall Carter, former CEO of State Street, often referred to State Street more as a technology company than a financial institution.

When Spina became Chairman of State Street in January 2001, taking over from Marshall Carter, he faced a different operating environment. The world’s stock markets had produced decreasing returns since the middle of 2000 and a series of structural changes were occurring in State Street’s core markets. These changes led State Street to focus on achieving greater returns from all assets and particularly from the IT investments that were crucial to State Street’s leadership position.

The structural changes included the impact of the aging population on pension systems, the move to T+1 settlement and the effect of the Internet on the provision of financial services. As populations live longer, policy makers are looking for ways to help people build suitable savings to fund their retirements. To manage these changes, governments will need support from financial institutions providing pension fund management services. These changes represent a huge opportunity for State Street to expand globally. In contrast, industry mandated changes—including straight-through processing and going from three days to one day to settle trades—will cost millions of dollars that will be difficult to recoup from customers.

State Street’s continued technology leadership placed it in a strong position to exploit business opportunities using Internet-based tools. State Street’s Global Link® product is an example of the impact of technology on financial services provision. At the 2001 annual meeting, Spina described Global Link®:

> “Global Link® creates order and simplicity for investors by providing a single point of

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contact ... supplying research ... and routing trades to the appropriate trading channel or partner. Half of the top 100 investment managers in the world are already using Global Link® and others are approaching us daily to become part of our network. We have participants from 21 countries. Through Global Link we have become a dominant player in the world of global e-finance.”

Evolving the IT Governance Structure

Traditionally, IT at State Street was highly distributed. A small core group ran the data center and network, and a central development organization supported the transaction processing system for the custody and accounting businesses. The capital markets and investment management businesses had autonomous IT organizations. Within the mutual fund business there were two IT groups: one externally focused, building capability to support clients, and the other responsible for the NAV\(^2\) calculation process that linked their application to the mainframe accounting system. An IT Steering Committee that included all the CIOs of the different businesses historically had played a limited role in driving the enterprise-wide use of IT. Fiore recalls how the IT Steering Committee had worked:

“There was an IT Steering Committee that I was a member of as the Head of IT for SSgA—the business group providing investment management service. We would get together each month and talk about things but at the end of the meeting we would go back to our jobs and focus on our local priorities.”

Like the other business groups, SSgA had a self-contained IT function responsible for operations across SSgA.

Moving to “One State Street” required a single point of contact and customer vision in order to develop new business and reduce time to market. Shared IT infrastructure was expected to enable “One State Street” by reducing duplication, decreasing time to market, cutting costs and delivering greater value from IT investment. Supporting “One State Street” required a change in the culture and organization of IT. Fiore described some of the areas where he focused attention to achieve the change.

“We began identifying areas where we needed to change the IT organization to deliver ‘One State Street.’ These included, for example, putting standards and processes in place more broadly to allow technology to deliver a consistent view of State Street to the customer; encouraging businesses to adopt new technology by reducing the penalty to early adopters; creating one IT community across State Street; and the refinement of IT investment justification techniques like business-cases and measurement of IT impact.”

A successful transition meant changing the way IT assets were deployed across State Street. A first step was to change State Street’s IT governance—to put in place decision making with appropriate accountability so as to encourage desirable behavior in the use of IT. At the end of 1999, Fiore appointed Amy Gutschenritter as senior vice president of IT governance with a mandate to make the necessary changes. Gutschenritter, a senior State Street project manager with considerable experience in both the businesses and central IT systems, analyzed IT governance across all State Street businesses and within the IT organization. Gutschenritter then established enterprise-wide IT initiatives to support the business and to implement a planning process for future IT investment. Internal IT organization initiatives examined architecture, technology standards, culture and the structure of the IT organization.

As a result of the review of IT governance, Fiore and Gutschenritter realized that some of the existing IT governance mechanisms needed to change, others would be retired and new mechanisms would be needed. The resulting set of governance mechanisms described below was designed to encourage the desirable behaviors needed for “One State Street.” The mechanisms are summarized in Exhibit 2.

\(^2\) Net Asset Value normally referred to as NAV is the dollar value of a single exchange traded fund share.
The Role of IT

The senior leadership of State Street had long recognized the role of technology in creating State Street’s competitive advantage. Marshall Carter forcefully articulated this view in a speech in 1998.

“The brick, mortar and marble that once defined finance is being displaced by rocket fast global computer networks that seamlessly link investors, capital markets, banks, clearing houses and government agencies. Financial services firms are rapidly evolving into information technology companies.”


The importance of IT was reinforced when the IT leadership developed guidelines describing the role and responsibility of the IT organization in supporting the enterprise. Fiore highlighted the importance of the IT organization being viewed by the business as an equal partner.

“I think it’s been pretty much universally accepted that our job is to work hand-in-hand with the business to support the business. It’s a partnership, we bring our expertise to the table and the business people bring their expertise to the table, and we should act as equals in terms of discussions on the right solution.”

The ITEC is the executive committee responsible for broad IT strategy and IT investment decisions. The existence of the ITEC reflects the responsibility of the senior business leadership for exploiting technology as a key State Street market differentiator.

The critical role of the ITEC was establishing IT priorities and setting IT direction within the context of State Street’s business strategy.

IT Organization, Culture and Sharing Assets

To support “One State Street,” the IT organization structure and culture needed to change from separately structured services located by business unit to one federated IT organization supporting the whole enterprise. Exhibit 3 shows the new State Street IT Organization. The IT leadership transformed the IT organization by creating new processes and organizational entities focused on new broader business objectives and by changing the way the IT and the business organizations interacted. A key cultural change was that an enterprise-wide IT organization would have the capacity to not only mandate technology components for an IT initiative, but also could assemble the skills and capabilities to get a broad range of perspectives from across the enterprise in order to improve an initiative. Therefore, to balance the enterprise-wide and business unit needs, the IT organization was realigned horizontally and vertically. IT services, such as infrastructure and data management, provided enterprise-wide horizontal services. Horizontal services were grouped together creating a centralized infrastructure delivered to businesses via a shared services model. IT services that support specific businesses are vertical services.

Fiore believed that the IT organization could act as a catalyst for change, but to do so needed to view itself as one IT community across State Street. A number of changes and new initiatives were implemented to encourage a “one IT community.” These changes started at the most senior level of State Street’s IT organization where the membership of the CIO Staff and IT Leadership Group was augmented from the business IT groups. Fiore explains:

“My staff comprises 12 people—the key vertical and horizontal IT senior vice-presidents. I use this group to set the overarching strategies on IT management, IT organizational structure and value management. The 40’ senior vice presidents of the IT community at State Street are called the IT Leadership Group (ITLG) and are responsible for executing the strategies defined by the CIO Staff.”

An IT portal was developed providing an electronic forum and knowledge base to support the IT organization community across State Street. Exhibit 4 presents the home page of the portal reflecting the wide range of information available. Gutschenritter explains the process of developing a sense of IT
community and breaking down some of the thinking that had formerly been business focused.

“The CIO Staff put together a series of focus groups with IT members from across State Street. These groups identified best practices in common areas of interest such as development processes/life cycle methodologies, application architecture, professional development, systems management, testing and helpdesk management. These focus groups marked the beginning of the process of bringing people into the IT community. Now, these groups have become institutionalized as the organization has evolved.”

The issue of sharing IT assets was also addressed, driven in part by recent experiences in e-business. By the end of 1999, State Street had deployed a number of separate targeted web solutions for the clients of different businesses. The autonomy and speed of deployment of these independent services were the results of State Street’s focus on time-to-market and meeting local client needs. However, there were considerable technical disadvantages: limited economies of scale; incompatible products; redundant deployment; specialized skills in each IT business unit; and difficulty of leveraging enterprise-wide development expertise.

The re-organization of the IT professionals into a shared services model marked a major change for many of the businesses leaders who had been accustomed to direct control of all their IT resources. A key challenge was ensuring that the central infrastructure continued to be responsive to the needs of the individual business units within a shared services model. Late in 2001 Fiore appointed a new senior vice president of infrastructure services. One of her first initiatives was to create a group of service delivery managers responsible for ensuring quality of infrastructure services to the individual businesses.

“The intent is that in each of the vertical IT areas, there is a service delivery manager who is aligned with both the vertical IT area and the infrastructure group via a dual reporting relationship. This person is responsible for the day-to-day support of that vertical IT group for infrastructure, daily operations and problem resolution as well as orchestrating the resources across the infrastructure group to support new initiatives.”

While changing the culture of the IT organization, the CIO Staff worked hard to ensure these mechanisms were always linked back with the business leadership. For example, when new high-level architectural standards were approved, they were also presented to the ITEC to get the business buy-in.

Office of Architecture

A clear process for identifying, mandating, and enforcing technology standards was a key enabler of the transformation to “One State Street.” Fiore explained that a robust process for setting and enforcing enterprise-wide standards reduces exceptions and leads to lower cost in the use of IT.

“Once these standards are communicated, the vertical IT organizations in each business will think about using the standards immediately, particularly if there’s an active process to continually revisit and validate those standards as well as handle exceptions. We expect once this process is active fewer and fewer exceptions will be requested.”

With the central IT organization and the business units sharing the risks of adopting new technologies State Street accelerated its leadership as a technology innovator. State Street’s architecture is designed to be scalable—it specifies both the linkages of applications to support a business unit as well as the technical choices to build applications. A State Street architect explains:

“There are several layers of architecture; you have business application architecture—how my business applications link together providing an effective platform for a business. You have technical applications architecture—which is the approach to building and integrating the applications so that they are scalable,
reliable and supportable. These two application definitions are supported by other pieces like the network and security architecture. Each of these aspects corresponds to an architectural layer, that once combined give the complete picture.”

Given the complexity of the architecture and its importance in supporting the goals of State Street, the role of the Office of Architecture was extended. The Office of Architecture is part of the horizontal IT organization serving all businesses. Originally responsible for setting overall architecture framework, applied technology research and identifying and setting technology standards, its responsibilities were extended to include the review of all projects to ensure compliance with standards. When a standard was not available, the Office of Architecture helped project leaders identify and implement the best technology to satisfy the business need. Owners of the standards within the Office of Architecture must be knowledgeable enough about the business and interact well with the vertical IT people supporting the business, to accept and support “off standard” decisions when faced with a time-to-market issue.

The local IT manager or the project manager working on the initiative has responsibility to justify an exception to the standard and then bring it to the owner of the standard and the Office of Architecture. The project manager and the owner of the standard discuss the advantages and disadvantages of going “off standard.” If the project manager and the standard owner cannot agree on the exception, it will immediately be escalated for arbitration by the CIO, COO and business unit leader. This appears to be a very steep escalation process, but as Fiore explains, there are some inherent advantages to this approach.

“It definitely sounds severe to immediately escalate to this level but it’s the easiest way of dealing with the responsiveness issue, because if you do not respond quickly the business will be concerned about the potential delay and may circumvent the process altogether.”

The new mandate for the Office of Architecture made it a powerful force to both promote sharing and re-use of technology across State Street and to support deployment of new technology to grow the business.

**ITEC and Enterprise-Wide IT Budgeting**

Traditionally, IT investments at State Street involved some relatively small funding of central services and then each business independently assigned additional funding based on business priorities.

A disadvantage of this approach is that many similar initiatives may be funded in different businesses. During 2001, State Street’s senior leadership decided that to achieve a better return on IT investment, State Street needed to move to enterprise-wide IT budget management.

The ITEC assumed responsibility for combining IT investment needs of individual businesses into an enterprise-wide IT budget. In the fall the leaders of each business and the CIO identified key IT business and infrastructure projects for the coming year and classified them according to their contribution to the corporate growth targets and to the strategy of each business. The result of this analysis created an initial portfolio of all IT projects recommended for the coming year. The ITEC then negotiated to create the optimal enterprise-wide IT portfolio that met the corporate growth targets and the operating budget allocated to information technology. A member of the CIO Staff identified several advantages of using the ITEC for budgeting compared with earlier IT investment committees.

“The negotiation of an enterprise-wide IT budget encourages value in the use of IT rather than focusing on the needs of individual businesses. The business executives do not always appreciate the impact of enterprise-wide infrastructure investment. By combining discussion of infrastructure investment with these business initiatives they understand the value of making that investment in enterprise-wide infrastructure because they’re all going to share in its use.”

Once a project has been approved, the IT organization tracks the use of IT resources on the project. As Gutschenritter explains, the activity
tracking system helps the businesses and IT organizations to track spending in dollars and hours.

“We can account for every dollar associated with a project. Each project is associated with a sponsor, and for each project we can show you all the IT people working on that project—whether they are in the vertical IT group aligned with the business or they are from another vertical IT unit because there is some application integration needed. The system allows us to track every group involved with a project and the degree of their involvement on a dialogue and activity basis.”

**Looking to the future**

The newly implemented IT governance appears to be working at State Street. Gutschenritter explains:

“We do have evidence from vertical IT managers and project managers that the architectural review process adds value by identifying and addressing issues before they critically impact a project.”

Four different vertical business applications areas are using a recently implemented messaging hub. This implementation highlights the brokering role of the Office of Architecture and the cost and time to market benefits of reusing infrastructure. As Gutschenritter explains:

“One example is messaging technology; we built a messaging hub so any application can use the hub as opposed to creating an application specific infrastructure for messaging. The team that drove the development of the messaging hub did a great job of getting the various groups to participate in the analysis and critique the final standard. The final implementation was brought to the ITLG for approval and sign-off.”

Key to any IT governance structure is the metrics and accountabilities for achieving IT value. Like many enterprises, State Street historically had not been particularly effective in measuring the business value of IT initiatives. The benefits of IT initiatives were traditionally expressed in very general terms such as “permitting the business to grow” or “building capacity for future opportunities.” The recent changes to the IT governance structure precipitated a move to quantitative measurement of the impact of IT investment.

To assess the impact of the IT investment, State Street formalized a set of quantitative metrics currently in trial mode (see Exhibit 5, State Street IT Metrics) and which will be tracked over time. The metric system demonstrates, using a common 1997 benchmark year, the impact of key business performance indicators, such as the number of client portfolios and positions administered and the daily net asset values (NAV) calculated for NASDAQ. For example, the number of NAVs calculated increased nearly three times from 1997 to 2000. At the same time the IT cost per NAV reduced by 50%. Similarly the number of client portfolios calculated increased over 150% in the three-year period while the IT costs per portfolio have dropped. Further evidence of the impact of the IT governance structure will be available in the coming year when the IT group introduces additional quantitative metrics that include benchmarking of project implementation times.

Fiore glanced out of the window and realized that the sunny November afternoon had changed to evening and the meeting of the ITEC to finalize the 2002 IT budget, with its lively debate, was still in progress. All ITEC members had been enthusiastic about the benefits of enterprise-wide IT budgeting but it was only today during the final negotiations that individual business unit leaders began to realize the implications for their own operations.

Yet, Fiore knew that if the IT governance changes were to support “One State Street,” all of the senior executives had to buy in to the enterprise-wide IT budget process. He wondered what changes the IT governance structure would need in the future.
Exhibit 1: State Street Financials (US $000s)

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<tr>
<td>Servicing Fees</td>
<td>$1,424</td>
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<td>$1,024</td>
<td>$861</td>
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<td>Management Fees</td>
<td>582</td>
<td>600</td>
<td>480</td>
<td>391</td>
<td>307</td>
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<tr>
<td>Foreign Exchange Trading</td>
<td>387</td>
<td>306</td>
<td>289</td>
<td>245</td>
<td>126</td>
</tr>
<tr>
<td>Other</td>
<td>272</td>
<td>236</td>
<td>204</td>
<td>176</td>
<td>158</td>
</tr>
<tr>
<td><strong>Total Fee Revenue</strong></td>
<td>2,665</td>
<td>2,312</td>
<td>1,997</td>
<td>1,673</td>
<td>1,302</td>
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<tr>
<td>Net Interest Revenue</td>
<td>950</td>
<td>807</td>
<td>768</td>
<td>669</td>
<td>580</td>
</tr>
<tr>
<td><strong>Total Operating Revenue</strong></td>
<td>3,615</td>
<td>3,119</td>
<td>2,765</td>
<td>2,342</td>
<td>1,882</td>
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<tr>
<td>Operating Expenses</td>
<td>2,644</td>
<td>2,336</td>
<td>2,068</td>
<td>1,734</td>
<td>1,398</td>
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<tr>
<td>Income before income taxes</td>
<td>971</td>
<td>783</td>
<td>697</td>
<td>608</td>
<td>484</td>
</tr>
<tr>
<td>Income Taxes</td>
<td>311</td>
<td>254</td>
<td>221</td>
<td>184</td>
<td>154</td>
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<td>Taxable equivalent adjustment</td>
<td>65</td>
<td>40</td>
<td>40</td>
<td>44</td>
<td>37</td>
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<tr>
<td><strong>Net Income</strong></td>
<td>$595</td>
<td>$489</td>
<td>$436</td>
<td>$380</td>
<td>$293</td>
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As of December 31

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<tbody>
<tr>
<td>$69,298</td>
<td>$60,896</td>
<td>$47,082</td>
<td>$37,975</td>
<td>$31,524</td>
<td></td>
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<tr>
<td>Long term debt</td>
<td>1,219</td>
<td>921</td>
<td>922</td>
<td>774</td>
<td>476</td>
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<tr>
<td>Stockholders Equity</td>
<td>3,262</td>
<td>2,652</td>
<td>2,311</td>
<td>1,995</td>
<td>1,775</td>
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<tr>
<td>Closing price of common stock</td>
<td>124.21</td>
<td>73.06</td>
<td>70.13</td>
<td>58.19</td>
<td>32.31</td>
</tr>
<tr>
<td>Number of employees</td>
<td>17,604</td>
<td>17,213</td>
<td>16,816</td>
<td>14,199</td>
<td>12,792</td>
</tr>
</tbody>
</table>

Source: State Street 2000 Annual Report, Selected Financial Data

Exhibit 2: State Street’s IT Governance Mechanisms

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITEC – Information Technology Executive Committee</td>
<td>Executive committee responsible for broad IT strategy and IT investment decisions composed of the CIO, CAO, COO and senior executives leading key business units.</td>
</tr>
<tr>
<td>Office of Architecture</td>
<td>Group responsible for managing architecture and infrastructure standards across State Street.</td>
</tr>
<tr>
<td>CIO Staff</td>
<td>CIO and twelve direct horizontal (within IT organization) and vertical (within business units) reports responsible for IT strategy.</td>
</tr>
<tr>
<td>IT Leadership Group</td>
<td>Approximately 40 senior vice presidents from the vertical and horizontal IT organizations responsible for implementation of IT strategy.</td>
</tr>
<tr>
<td>Service Delivery Agreements &amp; Chargeback</td>
<td>Agreements on service level and funding of IT services delivered by horizontal IT organization to the business units.</td>
</tr>
<tr>
<td>Federated IT Organization</td>
<td>The combination of IT resources providing shared services across State Street with those resources deployed to support a business unit.</td>
</tr>
<tr>
<td>Activity Tracking System</td>
<td>Shows all business unit and vertical and horizontal IT resources working on a project both in terms of FTE and dollars spent.</td>
</tr>
<tr>
<td>Enterprise-wide IT Budget Management</td>
<td>A process that allocates IT budgets to projects and infrastructure enterprise-wide.</td>
</tr>
</tbody>
</table>
Exhibit 3: State Street IT Organizational Structure
Exhibit 5: State Street IT Metrics

IT Metrics

Operational Transaction Growth 1997 - 2000 Compared to IT Growth

Index (Base = 100)

Compounded Annual Growth Rate (1997-2000):
- IT Dollar per NAV
- IT Dollar per Portfolio
- IT Dollar per Position
- Client Positions
- Number of total Portfolios
- # NAVs Daily to NASDAQ
- IT Spending

Value Delivered = Scale