



# ViaSQL for OS/390

Installation Planning Guide  
Site Survey



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# Purpose of This Guide

Viaserv provides software systems which incorporate OS/390 data and applications into enterprise-wide client/server applications and architectures. This guide contains important information about preparing your company's computing environment for installation of the ViaSQL system. The following topics are discussed:

- ▼ Viaserv systems, systems components, and features
- ▼ complementary third-party products
- ▼ the team installation process and required skills
- ▼ Viaserv documentation
- ▼ useful documentation from other vendors
- ▼ environmental requirements
- ▼ site preparation
- ▼ product distribution media
- ▼ Viaserv customer support
- ▼ ViaSQL project plan

In addition, it is important that you complete the Site Survey in the envelope at the back of this guide and return it to your Viaserv sales representative or directly to Viaserv support. Viaserv needs this information in order to provide you with the most complete support.

## **If you do nothing else:**

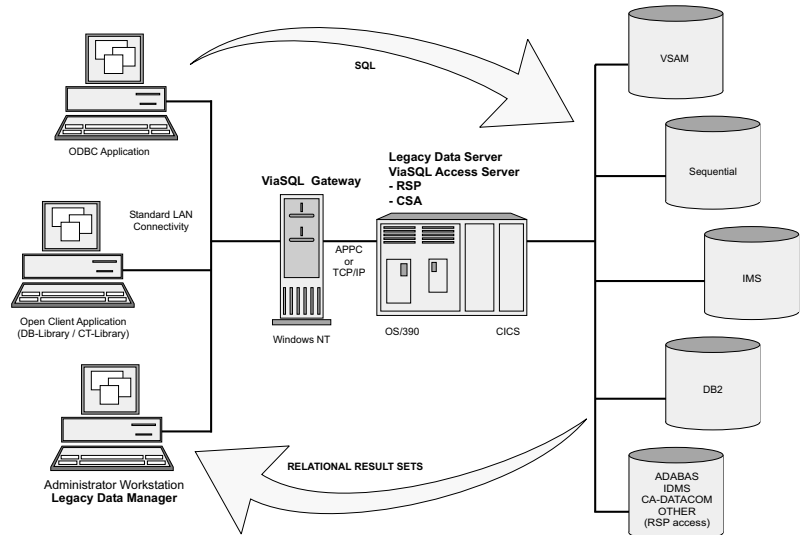
- ▼ Complete the Site Survey (located in the envelope at the back of this guide) and return it to Viaserv and the Viaserv partner you are working with.
- ▼ If using APPC, provide your SNA communications specialist with a copy of the appropriate *APPC Guidelines* documentation.

# Viaserv's Data Access Systems for OS/390

The Viaserv solutions — ViaSQL Integrator for OS/390 and ViaSQL Direct for OS/390 — provide a way of incorporating OS/390 data and applications into client/server and Internet applications and architectures.

ViaSQL Integrator enables:

- ▼ SQL access to relational data in DB2 and non-relational data in VSAM or sequential tape and disk files, and IMS segments
- ▼ programmatic access to any data source accessible from CICS (via Remote Stored Procedures, or RSPs)
- ▼ access to OS/390 programs and application code (via RSPs)
- ▼ data transfers, or bi-directional data movement between OS/390 and a LAN DBMS, or from OS/390 to a LAN-resident file
- ▼ access to LAN DBMSs and functions from CICS programs (Client Services Applications, or CSAs)



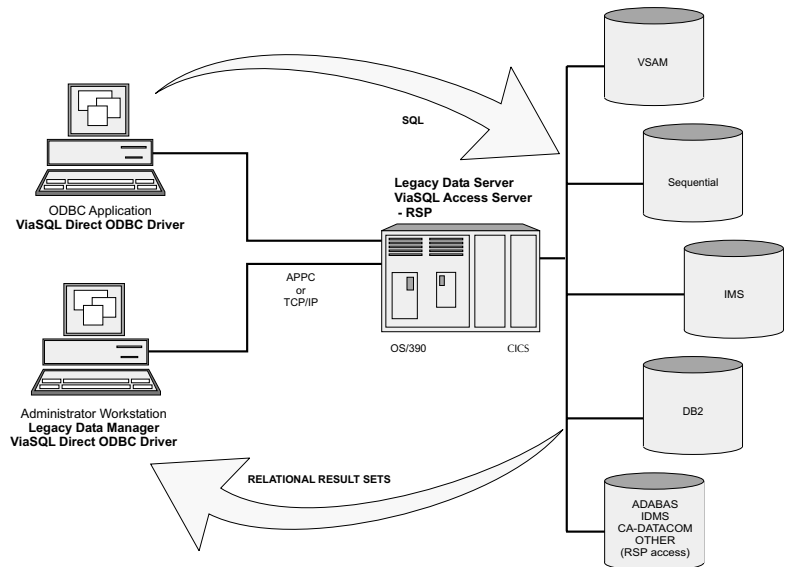
ViaSQL Integrator

A utility shipped with ViaSQL Integrator, the Viaserv ODBC Server, enables transfer and CSA access to LAN DBMSs for which a 32-bit ODBC driver is available.

A companion product, ViaTransit, enables automated building, scheduling, sequencing, and execution of transfers

ViaSQL Direct enables:

- ▼ SQL access to relational data in DB2 and non-relational data in VSAM or sequential tape and disk files, and IMS segments
- ▼ programmatic access to any data source accessible from CICS (Remote Stored Procedures, or RSPs)
- ▼ access to OS/390 programs and application code (RSPs)



ViaSQL Direct

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# ViaSQL and ViaTransit Components

ViaSQL Integrator, ViaSQL Direct, and ViaTransit are component-based solutions. Components for each system are shown in the following table.

Platform	Component	ViaSQL Integrator	ViaSQL Direct	ViaTransit
OS/390	ViaSQL Access Server for OS/390	✓	✓	
	Legacy Data Server	✓	✓	
Windows NT	ViaSQL Gateway	✓		
	ViaSQL CSA Server	✓		
	Viaserv ODBC Server	✓		
	Transfer Server			✓
Administrator Workstations	Legacy Data Manager	✓		
	Gateway Manager	✓		
	Transfer Manager			✓
Administrator Workstations User Workstations Web Servers	Open Client	✓	✓	
	Viaserv ODBC Driver	✓		
	ViaSQL Direct ODBC Driver	✓	✓	
Sybase or Microsoft DBMS	TransferStore			✓

## ViaSQL Access Server for OS/390

The ViaSQL Access Server resides on the mainframe as a CICS transaction program, and provides:

- ▼ dynamic access to DB2 data
- ▼ access to non-relational data via Remote Stored Procedures
- ▼ interface with Legacy Data Server for OS/390

## Legacy Data Manager

Legacy Data Manager is a Windows 32-bit ODBC application. It provides mapping functions for defining virtual tables — the relational interface to non-relational VSAM and sequential files and IMS segments — and administrative functions for the Legacy Data Server. It uses ViaSQL connectivity for mainframe access — either the Viaserv ODBC Driver with the ViaSQL Gateway, or the ViaSQL Direct ODBC Driver.

## Legacy Data Server

The Legacy Data Server resides on the mainframe and requires a minimum of two address spaces: one for running the LDSERVER code itself and one for running Viaserv Common Services (VCS). The Legacy Data Server region, Viaserv Common Services region, and CICS region running the ViaSQL Access Server must all reside on the same MVS image.

The Legacy Data Server provides:

- ▼ storage and catalog functions for the virtual table definitions sent from the Legacy Data Manager
- ▼ interpretation and optimization of the SQL statements sent from client applications
- ▼ access to underlying data files

Viaserv Common Services provides:

- ▼ cross-memory communication services between the CICS region running the ViaSQL Access Server and the Legacy Data Server region(s)
- ▼ other authorized services required by the Legacy Data Server, such as making external security calls for resource authorization

## ViaSQL Gateway

The ViaSQL Gateway resides on an IBM-compatible PC running Windows NT. The ViaSQL Gateway provides:

- ▼ OS/390 access for client applications using the Open Database Connectivity (ODBC), Open Client, or DB-Library API

Note: Because the ViaSQL Gateway is based on the Open Client / Open Server API, ODBC applications accessing the ViaSQL Gateway must use the Viaserv ODBC Driver, distributed with the ViaSQL Gateway, which provides required conversions.

- ▼ management of the APPC conversation or TCP/IP connection between the ViaSQL Gateway and the ViaSQL Access Server
- ▼ execution of the transfer function

## Gateway Manager

Gateway Manager is a Windows tool which allows administrators to configure, start, and stop ViaSQL Gateway instances remotely. It is distributed with the ViaSQL Gateway. It runs as a 32-bit Open Client application, and may be installed on any Windows machine on the network.

## Open Client

Open Client refers to the network drivers and the DB-Library and CT-Library application programming interface files which are required on client workstations for access to the ViaSQL Gateway. Viaserv distributes the following versions of Open Client with the ViaSQL Gateway component in ViaSQL Integrator:

- ▼ Open Client for Windows 95/98 v10.0.4 with EBF 7528
- ▼ Open Client for Windows NT v10.0.4 with EBF 7437

Contact Viaserv for other Open Client libraries.

## Viaserv ODBC Driver

The Viaserv ODBC Driver is distributed with ViaSQL Integrator. It performs conversion between ODBC calls, datatypes, etc., and the Open Client equivalents. It can be used only to access the ViaSQL Gateway. It is a 32-bit driver, and supports ODBC Level 3. A compatible ODBC Driver Manager is included.

## ViaSQL Direct ODBC Driver

The ViaSQL Direct ODBC Driver is distributed with both ViaSQL Integrator and ViaSQL Direct. It enables direct access from the client workstation to the ViaSQL Access Server, rather than access through the ViaSQL Gateway. Required ODBC conversions are performed by the ViaSQL Direct ODBC Driver. This driver cannot be used for access through the ViaSQL Gateway.

## ViaSQL CSA Server

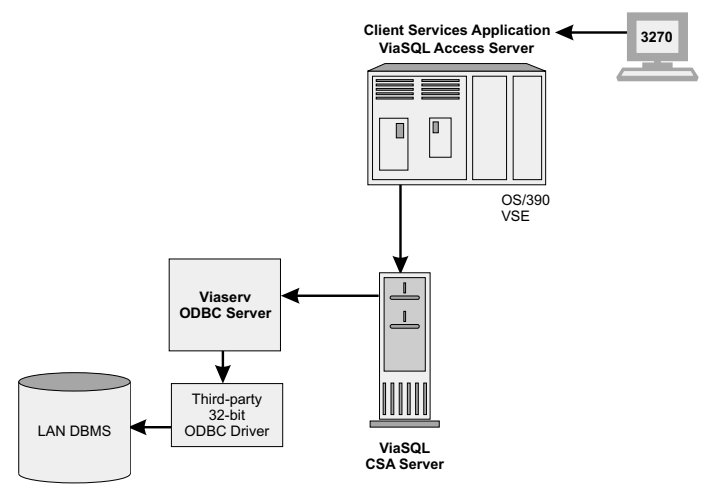
This component resides on a Windows NT platform (typically the ViaSQL Gateway platform), and allows CICS-based client applications (CSAs) to access LAN-based databases and Open Server applications, and to execute customer-written LAN Stored Procedures (LSPs).

## Viaserv ODBC Server

Viaserv ODBC Server is used by the ViaSQL system to access LAN databases for which a 32-bit ODBC driver is available.

Viaserv ODBC Server resides on a Windows NT platform, and converts the ViaSQL Gateway client processes (used by the transfer or CSA functions) to ODBC client processes.

Note: The transfer function has native access to Sybase SQL Server, Sybase ASE, MS SQL Server, Oracle, and ODBC databases. Accordingly, the Viaserv ODBC Server is typically used only for CSAs.



Viaserv ODBC Server Architecture

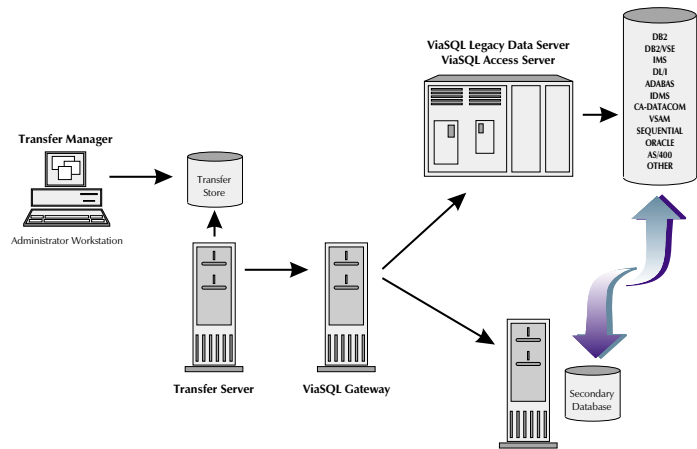
## ViaTransit Transfer Manager

Transfer Manager is the administrator interface to ViaTransit. It is used to define transfer sources and targets, transfer statements, transfer schedules and sequences, and pre- and post-transfer processing. These specifications are stored in the TransferStore.

Transfer Manager is also used to view transfer status, and log and error information.

## ViaTransit Transfer Server

Transfer Server implements transfer scheduling and execution, by polling the TransferStore at user-specified intervals, retrieving transfer details, and submitting the transfers to a ViaSQL Gateway for execution.



**ViaTransit Architecture**

## ViaTransit TransferStore

TransferStore is a set of tables which are used to store transfer specifications as defined via Transfer Manager. TransferStore must be set up in a supported database accessible from both the Transfer Manager and Transfer Server platforms. Supported databases include Sybase SQL Server, ASE, SQL Anywhere, and MS SQL Server. Upon request, Viaserv provides Sybase SQL Anywhere at no charge.

# ViaSQL Major Features

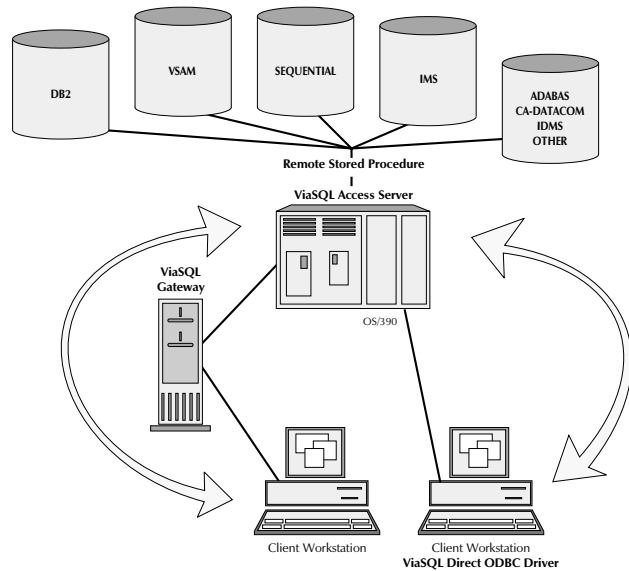
Three major features provided by ViaSQL extend the basic client/server architecture in several ways. This section briefly describes these three features. If you are planning to implement any of these features, please provide detailed information in the Site Survey.

## Remote Stored Procedures (RSPs)

RSPs provide programmatic access to any OS/390 data store. RSPs are customer-written programs that contain the Viaserv RSP API, a set of verbs which are used to exchange data and control information between the ViaSQL Access Server and the RSP. RSPs may be written in COBOL II, COBOL/370, or COBOL for MVS and VM, Assembler, PL/I, C, Software AG NATURAL, or CA-IDEAL. Existing CICS programs may be converted to RSPs.

RSPs are executed from client applications by sending a USE PROCEDURE *rsp\_name* statement to the ViaSQL Access Server.

Both ViaSQL Integrator and ViaSQL Direct support RSPs.



## Client Services Applications (CSAs)

CSAs enable OS/390-CICS programs to act as clients to LAN DBMSs or Open Server programs, or to execute LAN Stored Procedures (LSPs).

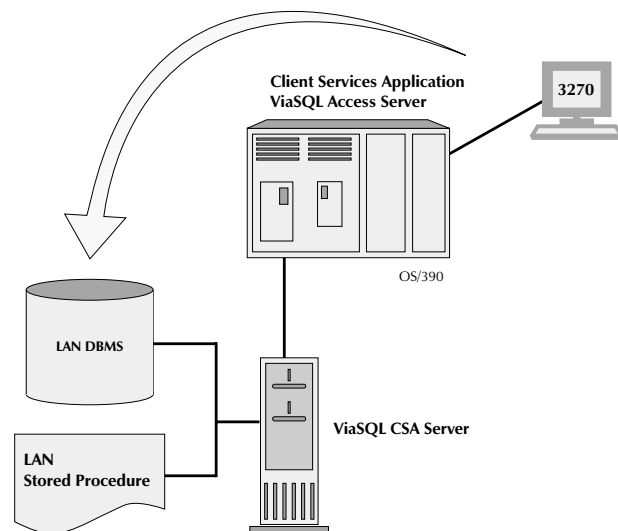
CSAs, like RSPs, are customer-written programs. They use the Viaserv CSA API to manage the exchange of data and control information between the CSA and the ViaSQL Access Server. CSAs may be written in COBOL II, COBOL/370, or COBOL for MVS and VM, Assembler, PL/I, C, Software AG NATURAL, or CA-IDEAL. Existing CICS programs may be converted to CSAs.

CSAs have native access to Sybase DBMSs and MS SQL Server. With the addition of the Viaserv ODBC Server, CSAs can access any LAN database that is accessible with a 32-bit ODBC driver.

CSAs, being CICS transactions, are executed from a 3270 session, or by a CICS timer or event mechanism.

CSAs are supported only by ViaSQL Integrator.

## Remote Stored Procedures



## Client Services Applications

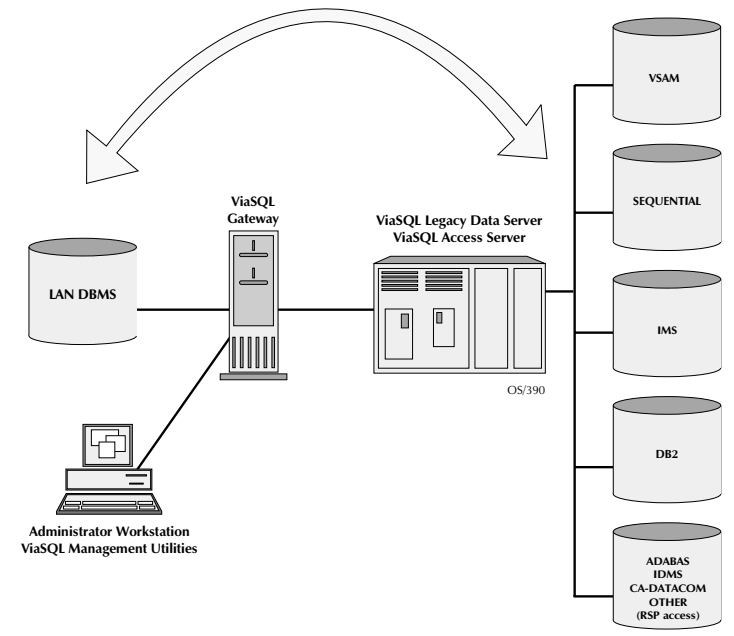
## Transfer

The transfer feature allows you to copy a relational result set from one database to another. ViaSQL supports bi-directional transfer between OS/390 data stores and LAN databases, and transfer from OS/390 to a LAN-resident file.

ViaSQL Integrator provides native access to the following LAN DBMSs: Sybase SQL Server or ASE, MS SQL Server, Oracle v7.x or higher, and any DBMS accessible via 32-bit ODBC.

The Legacy Data Server, RSPs, and the Viaserv ODBC Server may all be used to extend the reach of the transfer function.

Transfers are supported only by ViaSQL Integrator.



## Transfer

# Third-Party Products with ViaSQL

Because ViaSQL implements standard APIs and protocols, it can interoperate with a variety of third-party products. This section discusses ViaSQL in combination with front-end tools, Sybase products and architectures, and web-based applications.

## Supported Tools

ViaSQL supports most ODBC, DB-Library, and CT-Library applications. For information on specific applications, contact Viaserv customer support.

## Sybase Products and Architectures

Because the ViaSQL Gateway component implements the Open Server and Open Client APIs for LAN connectivity, it interoperates easily with a variety of Sybase products, including OmniConnect, MDI Database Gateway, DirectConnect, and SQL Server or ASE. For example:

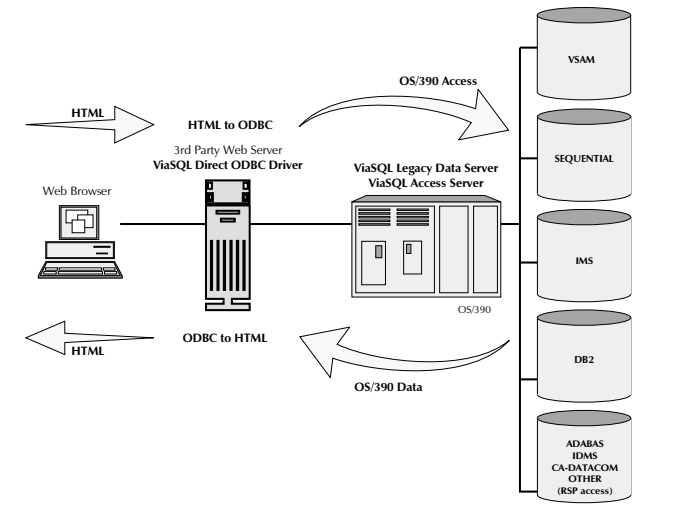
- ▼ ViaSQL may be set up behind OmniConnect to allow users to transparently access and join OS/390 data with other data.
- ▼ ViaSQL may be accessed by SQL Server remote procedure calls (RPCs).
- ▼ ViaSQL may act as a transfer partner with MDI Database Gateway or DirectConnect.

## Web Access

Both ViaSQL Integrator and ViaSQL Direct support web browser access to OS/390 data and applications.

In a typical implementation, either the Viaserv ODBC Driver or the ViaSQL Direct ODBC Driver is installed on the Web server platform.

Alternatively, a CGI script can invoke an Open Client or DB-Library program to access ViaSQL.



ViaSQL in Web Environment

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# ViaSQL Implementation Team

Because the ViaSQL systems span multiple technology areas, Viaserv strongly recommends a coordinated approach involving the following people or skill sets:

## Team Leader

- ▼ Be familiar with your company's database systems.
- ▼ Understand both business and technical requirements of the ViaSQL application.

## Communications Specialist — Mainframe

- ▼ If APPC will be used for the ViaSQL Gateway – ViaSQL Access Server connection, have a working knowledge of APPC communications, including VTAM and NCP.
- ▼ If TCP/IP will be used for the ViaSQL Gateway – ViaSQL Access Server connection, have a working knowledge of TCP/IP communications software, either IBM TCP/IP or the TCP/IP services provided under IBM OS/390 eNetwork Communications Server.

## Communications Specialist — LAN

- ▼ If APPC will be used for the ViaSQL Gateway – ViaSQL Access Server connection, have a working knowledge of Microsoft SNA Server.
- ▼ If TCP/IP will be used for the ViaSQL Gateway – ViaSQL Access Server connection, have a working knowledge of LAN-based TCP/IP communications software which will connect to IBM TCP/IP or the TCP/IP services provided under IBM OS/390 eNetwork Communications Server.

## Systems Programmer — OS/390 and CICS

- ▼ Have a working knowledge of OS/390 and CICS.
- ▼ Have a working knowledge of CICS resource definition (programs, program list tables, transactions, terminals).
- ▼ Have an understanding of OS/390 Job Control Language (JCL), and a knowledge of specific JCL standards and conventions used on the mainframe where the ViaSQL Access Server and, optionally, the Legacy Data Server, will be installed.

## ViaSQL Gateway Administrator

- ▼ Have a working knowledge of Windows NT system administration and networking.

## LAN/Workstation Administrator

- ▼ Have a working knowledge of client/server network implementation, including Open Client / Open Server, ODBC, and network-specific topics (TCP/IP addressing, Windows NT domains, etc.).

## **Database Administrator — OS/390**

- ▼ Have a working knowledge of all OS/390 data sources which ViaSQL will access (DB2, VSAM, IMS, sequential, ADABAS, IDMS, etc.).
- ▼ Have a working knowledge of relational database concepts, including primary and foreign keys and joins.
- ▼ Have a working knowledge of relevant non-relational data structures and concepts.
- ▼ Have a working knowledge of and access to the copybooks used by your applications.

## **Database Administrator — LAN**

- ▼ Have a working knowledge of all LAN data sources which ViaSQL will access.

## **ViaTransit Administrator**

- ▼ Have working knowledge of Open Client and ODBC setup.
- ▼ Have working knowledge of database administration for relevant LAN DBMSs.

## **Application Developers — Client**

- ▼ Understand users' needs.
- ▼ Have a working knowledge of relevant API (ODBC, DB-Library, CT-Library).
- ▼ Have a working knowledge of front-end tools to be used.

## **Application Developers — OS/390**

- ▼ Have a working knowledge of OS/390 and CICS.
- ▼ Have a working knowledge of CICS application programming in the language selected for coding Remote Stored Procedures (RSPs) and Client Services Applications (CSAs).

# Viaserv Documentation

The following table lists the available ViaSQL documents with suggestions on distribution to the ViaSQL team. Documentation is available both in hard copy and in PDF format on the distribution media and on the Viaserv web site (<http://www.viaserv.com>). A user ID and password, available from Viaserv, are required for document download.

Document	ViaSQL Integrator	ViaSQL Direct	ViaTransit	Suggested Distribution	Document Purpose
<i>Installation Planning Guide</i>	✓	✓		ViaSQL Team Leader	prepare for installation
<i>APPC Guidelines</i> <i>TCP/IP Guidelines</i>	✓	✓		Communications Specialists	configure and test connectivity from the LAN to the ViaSQL Access Server
<i>ViaSQL Mainframe Installation Guide for OS/390</i>	✓	✓		Systems Programmers — OS/390 and CICS	install, configure, test ViaSQL Access Server
<i>ViaSQL Mainframe Administration Guide for OS/390</i>	✓	✓		Systems Programmers — OS/390 and CICS	install, configure, test Legacy Data Server and Legacy Data Manager
<i>ViaSQL Gateway Installation and Administration Guide</i>	✓			ViaSQL Gateway Administrator, LAN/Workstation Administrator	install, configure, test ViaSQL Gateway; set up and test client and administrator workstations
<i>Legacy Data Manager Installation and User's Guide</i>	✓	✓		DBA — OS/390	define virtual tables; set up and test client and administrator workstations
<i>ViaSQL Gateway User's Guide</i>	✓			Application Developer — Client, DBA — LAN, ViaSQL Gateway Administrator	write client applications that access ViaSQL
<i>Remote Stored Procedures Programmer's Guide and Reference</i>	✓	✓		Application Developer — CICS	write, set up, test RSPs
<i>Client Services Applications Programmer's Guide and Reference</i>	✓			Application Developer — CICS	write, set up, test CSAs
<i>ViaTransit Installation Guide</i>			✓	ViaSQL Gateway Administrator	install, configure, test ViaTransit
<i>ViaSQL Error Messages</i>	✓	✓		any	comprehensive list of all error messages returned by ViaSQL components

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## Additional Documentation

For more information about other products that might affect ViaSQL operation, contact the appropriate vendor for copies of any of the publications listed below.

Vendor	Product	Document
IBM	OS/390 eNetwork Communications Server	<i>SNA Planning and Migration Guide</i>
		<i>SNA Resource Definition Reference</i>
		<i>SNA Programmers LU 6.2 Reference</i>
		<i>SNA Messages</i>
		<i>IP Planning and Migration Guide</i>
	<i>IP Messages: Volumes 1, 2, and 3</i>	
NCP for MVS	<i>NCP/SSP/EP Resource Definition Guide</i>	
CICS	<i>CICS Resource Definition Guide</i>	
	<i>CICS CICS-Supplied Transactions</i>	
	<i>CICS Messages and Codes</i>	
	<i>CICS System Definition Guide</i>	
	<i>CICS Intercommunications Guide</i>	
DB2 for OS/390	<i>DB2 for OS/390 SQL Reference</i>	
	<i>DB2 for OS/390 Messages and Codes</i>	
	<i>DB2 for OS/390 Administration Guide</i>	
	<i>DB2 for OS/390 Application Programming and SQL Guide</i>	
IMS	<i>IMS Messages and Codes</i>	
	<i>IMS Application Programming: DB</i>	
	<i>IMS Utilities: System</i>	
	<i>IMS Administration Guide: DB</i>	
Miscellaneous	<i>Data Extract Reference</i>	
	<i>SAA Database Reference</i>	
Microsoft	ODBC	<i>ODBC Programmer's Reference</i>
	Windows NT	<i>Windows NT Installation Guide</i>
		<i>Windows NT Network Client Administrator</i> Windows NT installation CD-ROM on-line documentation
SNA Server	<i>SNA Server Planning Guide</i> <i>SNA Server Administration Guide</i> <i>SNA Server Reference</i>	

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# Product Distribution

Component	Media	Notes
ViaSQL Access Server for OS/390	CD ROM	Installation requires a workstation with FTP or 3270 SEND/RECEIVE connectivity to the OS/390 system.
Legacy Data Server	CD ROM	Shipped according to licensing agreement.
Legacy Data Manager	CD ROM	Shipped according to licensing agreement.
ViaSQL Gateway	CD ROM	Shipped only with ViaSQL Integrator.
Open Client	CD ROM	Distributed with ViaSQL Gateway.
Gateway Manager	CD ROM	Distributed with ViaSQL Gateway.
Viaserv ODBC Driver	CD ROM	Distributed with ViaSQL Gateway.
ViaSQL Direct ODBC Driver	CD ROM	Shipped with both ViaSQL Integrator and ViaSQL Direct.
Viaserv CSA Server	CD ROM	Distributed with ViaSQL Gateway.
Viaserv ODBC Server	CD ROM	Distributed with ViaSQL Gateway.
ViaTransit	CD ROM	Shipped according to licensing agreement.

# Environment Requirements

## ViaSQL Component Requirements

Component	Platform	Requirements	Comments
ViaSQL Access Server	OS/390-CICS or MVS/ESA	<ul style="list-style-type: none"> <li>▼ OS/390 or MVS/ESA adequate for CICS support</li> </ul>	<ul style="list-style-type: none"> <li>▼ APPC and/or TCP/IP connectivity (see OS/390 Connectivity Requirements section)</li> </ul>
access to DB2		<ul style="list-style-type: none"> <li>▼ CICS/ESA v3.3 or later</li> <li>▼ DB2 for OS/390 v4 or later</li> <li>▼ DSNB transaction</li> </ul>	
access to Legacy Data Server		<ul style="list-style-type: none"> <li>▼ CICS v3.3 or later</li> </ul>	
access to IMS via Legacy Data Server		<ul style="list-style-type: none"> <li>▼ IMS/ESA v5 or higher</li> <li>▼ IMS DBCTL connection</li> </ul>	
Legacy Data Server	OS/390	<ul style="list-style-type: none"> <li>▼ OS/390 v1.1 or later</li> <li>▼ two or more OS/390 regions*</li> <li>▼ supported SORT utility</li> </ul>	<ul style="list-style-type: none"> <li>supported SORT utilities:</li> <li>▼ IBM DFSORT r13 or later</li> <li>▼ OEM equivalent</li> </ul>
ViaSQL Gateway	Intel processor, 80486 or better 32 Mb RAM (64 Mb recommended) Windows NT v3.51 or later	<ul style="list-style-type: none"> <li>▼ APPC (LU 6.2) or TCP/IP access to OS/390</li> <li>▼ support for LAN protocol used by client workstations</li> <li>▼ at least 30Mb disk space</li> </ul>	see OS/390 Connectivity Requirements section
Open Client	Windows 95, 98, NT, Macintosh, DOS, UNIX	<ul style="list-style-type: none"> <li>▼ network access to ViaSQL Gateway platform</li> </ul>	<ul style="list-style-type: none"> <li>▼ 32-bit Windows libraries standard</li> <li>▼ other libraries by special arrangement</li> </ul>
Viaserv ODBC Driver	Windows 95, 98, Windows NT v3.51 or later 32-bit client application	<ul style="list-style-type: none"> <li>▼ underlying Open Client installation</li> </ul>	<ul style="list-style-type: none"> <li>▼ distributed with ViaSQL Gateway (ViaSQL Integrator)</li> </ul>

Component	Platform	Requirements	Comments
ViaSQL Direct ODBC Driver	Windows 95, 98, Windows NT v3.51 or later  32-bit client application	▼ APPC (LU 6.2) or TCP/IP access to OS/390	see OS/390 Connectivity Requirements section
Legacy Data Manager	Windows 95, 98, Windows NT v3.51 or later	▼ Viaserv ODBC driver or ViaSQL Direct ODBC Driver	
ViaSQL CSA Server	Windows NT v3.51 or later	▼ APPC or TCP/IP access from ViaSQL Access Server (see OS/390 Connectivity Requirements section) ▼ 32-bit Open Client access to target DBMS ▼ network access to LAN Stored Procedures	▼ ViaSQL CSA Server distributed with ViaSQL Gateway (ViaSQL Integrator) ▼ 32-bit Open Client distributed with ViaSQL Gateway ▼ use Viaserv ODBC Server and third-party ODBC driver to access DBMSs that do not support Open Client
ViaTransit			
Transfer Manager	Windows 95, 98, Windows NT v3.51 or later	▼ 32-bit ODBC access to ViaSQL Gateway, TransferStore DBMS, and secondary DBMS	secondary DBMS is LAN DBMS acting as transfer source or target
Transfer Server	Windows NT v3.51 or later	▼ 32-bit Open Client access to ViaSQL Gateway and TransferStore DBMS	
TransferStore	Sybase System X, System XI, ASE, SQL Anywhere, MS SQL Server	▼ support for 32-bit Open Client	
Viaserv ODBC Server	Windows NT v3.51 or later	▼ 32-bit ODBC access to target DBMS	▼ distributed with ViaSQL Gateway (ViaSQL Integrator)

\* The OS/390 regions are used as follows:

- ▼ at least one Viaserv Common Services (VCS) address space
  - ▼ must run APF-authorized
  - ▼ one system linkage entry per VCS address space
  - ▼ approximately 1M address space
  - ▼ approximately 500 bytes of ECSA storage per VCS address space
- ▼ at least one Legacy Data Server address space
  - ▼ approximately 3M address space, of which less than 1M is required below the 16MB line
  - ▼ if SAF Security Active? is configured to YES, this address space must run APF-authorized
  - ▼ read-only access to IMS PSBLIB and DBDLIB datasets (only if SQL access to IMS data is required from Legacy Data Server)

# OS/390 Connectivity Requirements

Component	Platform	Requirements	Comments
APPC (LU 6.2)	OS/390-VTAM	▼ VTAM for MVS v4 or above	for 3725 controllers: ▼ NCP v4.3  for 3745 controllers: ▼ NCP v5.2  for parallel sessions through 3174 controllers: ▼ controller Microcode Level C
	ViaSQL Gateway platform or user workstation	▼ Microsoft SNA Server v2.1 or later	
TCP/IP	OS/390	▼ IBM TCP/IP v3.2 or later, or ▼ IBM OS/390 eNetwork Communications Server v2.5 or later	▼ CICS v4.1 or above if user ID/password verification will be used
	Windows NT v3.51 or later	▼ native TCP/IP stack	

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# Site Preparation

To make installation quicker and easier, complete the following tasks before you receive the ViaSQL software.

## Mainframe

- ▼ Ensure that your site meets the requirements specified in the previous section. Check requirements for both the ViaSQL Access Server and the Legacy Data Server, as appropriate.

## ViaSQL Gateway Platform

- ▼ Ensure that the machine meets the requirements specified in the previous section.
- ▼ Ensure that all communications protocols that clients will use are appropriately defined.
- ▼ If APPC will be used for ViaSQL Gateway – ViaSQL Access Server connectivity, ensure that MS SNA Server is installed and available to the ViaSQL Gateway.

## Connectivity to OS/390

- ▼ If APPC will be used for ViaSQL Gateway – ViaSQL Access Server connectivity, establish an APPC communications link between SNA Server and the CICS region where the ViaSQL Access Server will be installed. The local node must be defined to VTAM as a physical unit (PU) Type 2.1 node capable of logical unit (LU) 6.2 sessions to CICS. Detailed information about establishing and testing this connection is provided in the *APPC Guidelines* documentation.
- ▼ If TCP/IP will be used for ViaSQL Gateway – ViaSQL Access Server connectivity, ensure that the ViaSQL Gateway machine can successfully ping the OS/390 host, and that the OS/390 host can successfully ping the ViaSQL Gateway machine. Refer to the *TCP/IP Guidelines* documentation.

## DB2

- ▼ Ensure that the required DB2 version level is installed.
- ▼ Define and activate DB2 connection in CICS region where the ViaSQL Access Server will be installed
- ▼ Prepare reference information on DB2 tables and columns that will be accessed by the client applications. Verify or create useful indexes.
- ▼ Grant the appropriate DB2 table privileges to the ViaSQL users.
- ▼ Grant SELECT authority on the DB2 catalog tables to users whose applications include catalog stored procedures.

## IMS

- ▼ Define and activate DBCTL connection in CICS region where the ViaSQL Access Server will be installed (only if SQL access to IMS data is required from Legacy Data Server)

## Other OS/390 Data Sources

- ▼ Identify VSAM and sequential files and IMS segments which will be accessed by ViaSQL applications.
- ▼ Locate copybooks or file structure information for all files to be accessed.
- ▼ Verify or create useful indexes.

## Security

- ▼ Define high-level qualifier and associated ALIAS to be used for ViaSQL datasets
- ▼ Define external security user ID to be used for installing and running ViaSQL components

## Clients

- ▼ Install and test network communications.
- ▼ Install front-end applications.

## LAN

- ▼ Verify that each client workstation can make a connection to the machine where the ViaSQL Gateway will be installed.
- ▼ For transfers and CSAs, verify connectivity from the ViaSQL Gateway machine to the LAN database.
- ▼ For remote procedure calls (RPCs), verify connectivity from the LAN DBMS to the ViaSQL Gateway platform. .

## LAN Databases

- ▼ Install and test LAN database if:
  - ▼ you plan to use ViaSQL's transfer feature to transfer data to or from the DBMS
  - ▼ CSAs will access the LAN DBMS
  - ▼ you plan to execute remote procedure calls (RPCs) from the DBMS to the ViaSQL Gateway
- ▼ If you plan to use Viaserv ODBC Server, obtain and test a 32-bit ODBC driver for each database.

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# Viaserv Customer Support

Viaserv customer support provides assistance to customers whose software is under warranty or who purchased support under a maintenance agreement.

## Technical Support

For technical support call Viaserv at 800-348-3964 or 303-415-9083. Technical support is available during normal business hours Monday through Friday Mountain Time.

## Web-Based Support

The Viaserv web site contains a variety of support information, including:

- ▼ PDF versions of product documentation
- ▼ release summaries for ViaSQL components
- ▼ current version information for ViaSQL components
- ▼ a searchable knowledgebase
- ▼ sample RSPs and CSAs

The web site URL is <http://www.viaserv.com>. A user ID and password are required to enter the customer section. Contact Viaserv to obtain the required values.

## Viaserv Professional Services

Viaserv Professional Services offers consulting and training programs to help you realize the benefits of Viaserv products. For more information, call 303-415-9083.

## Customer Feedback

If you have questions, comments, or suggestions about any Viaserv product, document, or service, contact Viaserv through the technical support line, your sales representative, or email at [info@viaserv.com](mailto:info@viaserv.com). You may also contact the Viaserv partner you are working with.

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# ViaSQL Project Plan

The following table describes the tasks involved in installing and implementing the ViaSQL system.

The tasks are presented in phases. In general, each phase must be completed before the next one can begin. Within each phase, various tasks can be performed in parallel, although testing of one task may require completion of a parallel task.

The table assumes installation of a complete ViaSQL Integrator system, including RSPs, CSAs, RPCs, transfers, and the Viaserv ODBC Server. Omit tasks that are not relevant to your installation. Detailed information for each task can be found in the ViaSQL documentation. If ViaTransit will be used, Viaserv recommends that ViaSQL installation be completed and tested before installing ViaTransit.

Viaserv recommends that you use this table to organize and assign tasks, and also as a checklist to verify completion of tasks.

As part of getting ready for this project plan, the team leader should:

- ▼ Assemble the installation team
- ▼ Complete the Site Survey and return to Viaserv and the Viaserv partner you are working with
- ▼ Identify ViaSQL users
- ▼ Gather business and technical information on the applications that ViaSQL will support
- ▼ Gather information on the front-end tools to be used with ViaSQL
- ▼ Train the installation team
- ▼ Train the application development team
- ▼ Obtain and distribute ViaSQL documentation

# ViaSQL Project Plan — Phases I – VI

	OS/390 Environment and Data	LAN Communications	LAN and Workstation
Phase I for APPC Connectivity	Configure VTAM (and NCP if required) for both LU 6.2 and 3270 communications.	Install and configure SNA LU 6.2 communications package.	Set up LAN connectivity on the server where the ViaSQL Gateway will be installed.
	Configure CICS node definitions.	Configure and test a 3270 connection to the host system.	Set up and test LAN connectivity from all client workstations to the ViaSQL Gateway platform.
	Check host security parameters.	Configure an LU 6.2 (APPC) connection.	
	Install CICS component of APPCTEST.	Install LAN component of APPCTEST.	
		Test APPC conversation with APPCTEST.	
	OS/390 Environment and Data	LAN Communications	LAN and Workstation
Phase I for TCP/IP Connectivity	Install and configure TCP/IP on OS/390.		Set up LAN connectivity on the server where the ViaSQL Gateway will be installed.
	Test ping from OS/390 host to ViaSQL Gateway platform.	Configure TCP/IP for connectivity to OS/390 host.	Set up and test LAN connectivity from all client workstations to the ViaSQL Gateway platform.
		Test ping from ViaSQL Gateway platform to OS/390 host.	
	OS/390 Environment and Data	ViaSQL Gateway Platform	ViaSQL Gateway Platform as Client
Phase II	Install, configure, and test ViaSQL Access Server and Legacy Data Server.	Install ViaSQL Gateway.	
		Configure ViaSQL Gateway instance and test connection to ViaSQL Access Server.	Install, set up, and test Legacy Data Manager on ViaSQL Gateway platform.

	<b>OS/390 Environment and Data</b>	<b>ViaSQL Gateway Platform</b>	<b>ViaSQL Gateway Platform as Client</b>
<b>Phase III</b>		Create DB2 tables for CSP support, ODBC support, and testing.	Test access to DB2.
		Create and test virtual table definitions.	Test access to virtual tables.
	<b>OS/390 Environment and Data</b>	<b>ViaSQL Gateway Platform</b>	<b>LAN and LAN DBMS</b>
<b>Phase IV</b>		Configure ViaSQL CSA Server if required.	Verify access from SQL Server to ViaSQL Gateway (RPCs).
		Install and configure Viaserv ODBC Server if required.	
		Install and test third-party ODBC drivers as required (Viaserv ODBC Server).	Verify access from ViaSQL Gateway platform to LAN databases (transfers and CSAs).
	<b>OS/390 Environment and Data</b>	<b>Administrator Workstations</b>	<b>User Workstations</b>
<b>Phase V</b>	Verify CICS user IDs.	Install, set up, and test Open Client, Viaserv ODBC Driver, or ViaSQL Direct ODBC Driver as required.	Install, set up, and test Open Client, Viaserv ODBC Driver, or ViaSQL Direct ODBC Driver as required.
	Grant required privileges on data to be accessed.	Install, set up, and test Gateway Manager and Legacy Data Manager.	Test access to DB2 tables and virtual tables.
	Review ViaSQL Access Server and Legacy Data Server configuration and modify or define additional instances as required.	Review ViaSQL Gateway configuration and modify or define additional Gateway services as required.	Modify Open Client or ODBC configuration to use new ViaSQL services as required.
	<b>OS/390 Environment and Data</b>	<b>ViaSQL Gateway</b>	<b>Workstation, LAN, LAN DBMS</b>
<b>Phase VI</b>	Code and test RSPs.		Install and test front-end applications.
	Code and test CSAs.	Write and test transfers.	Write and test RPCs.
	Grant required RSP and CSA authorizations.		Grant required LAN DBMS privileges.