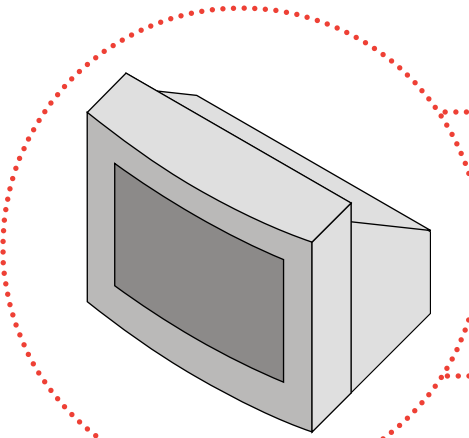
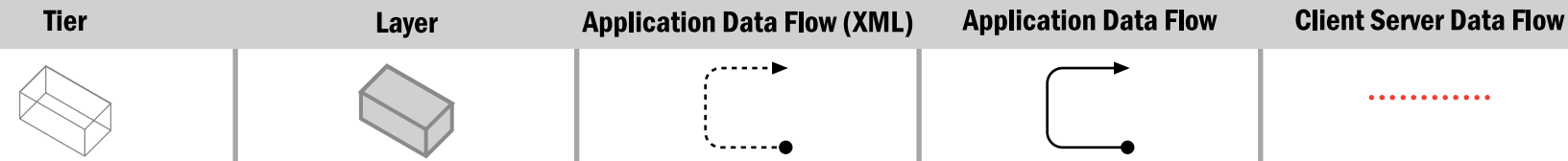


Architecting a Web Application with SQL Server XML

Legend

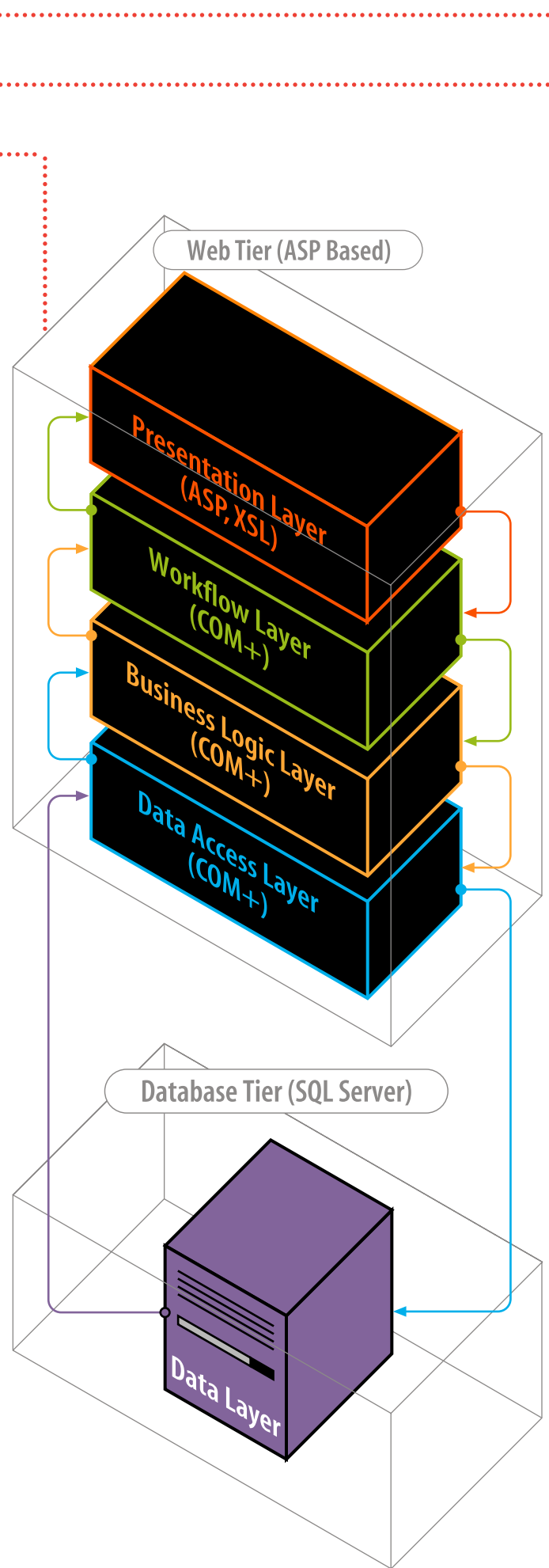
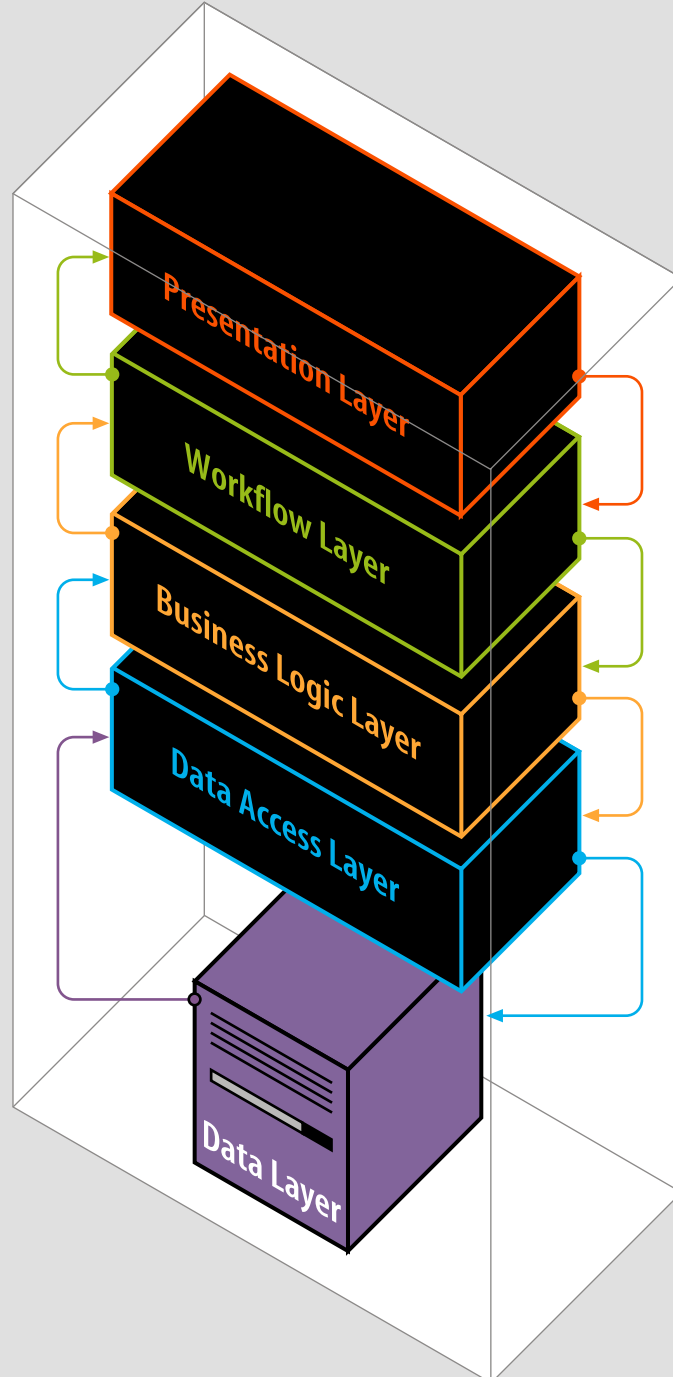


The Client

The user's window into the application is shaped by the presentation layer. In fact, the presentation layer abstracts the rest of the architecture from the user. You can use this to your advantage by combining two or more architectures with a seamless user experience. This allows you, for example, to optimize the most-requested areas of your site for maximum performance and the most-sensitive areas for maximum security.

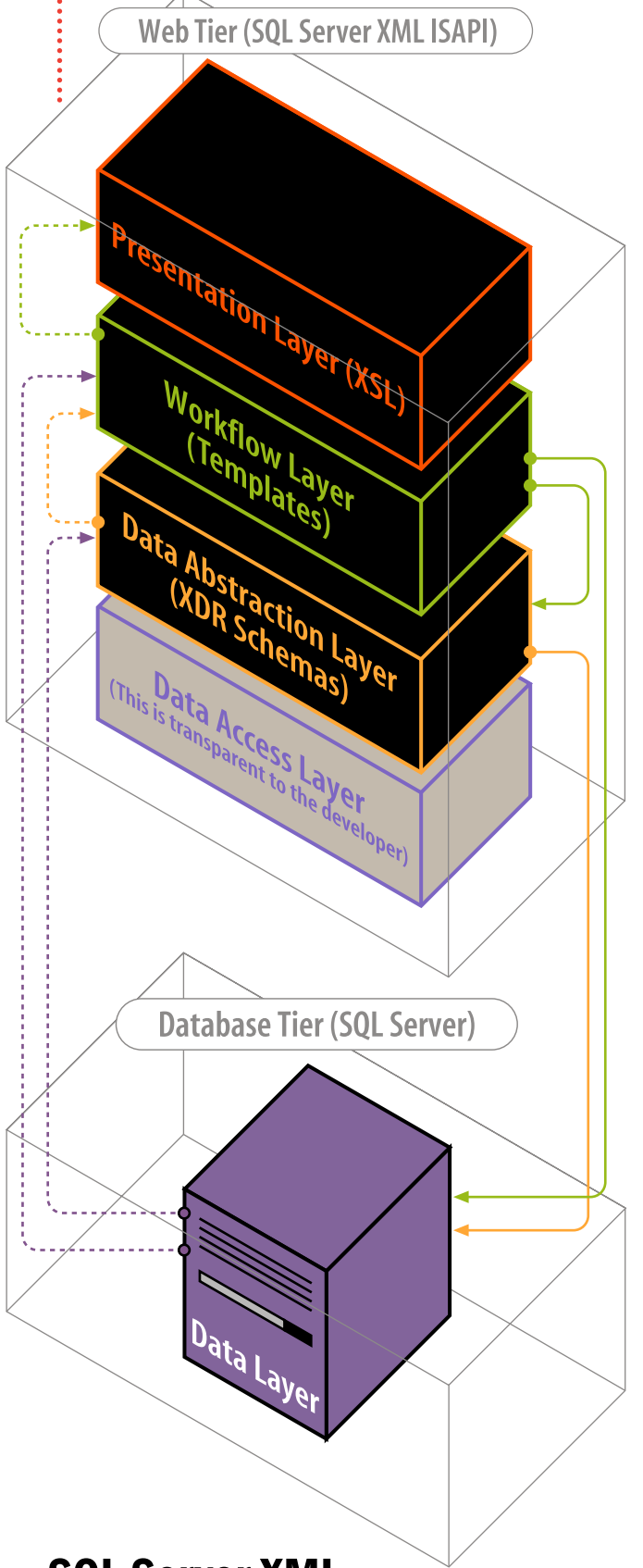
Logical Architecture

The logical architecture is an abstract organizing concept that drives the factoring of an application. In designing Duwamish Online, we created a logical architecture that breaks the code down into five layers. The result is far-reaching, as you will find that the operations in each of the five layers seen here are present in every application.



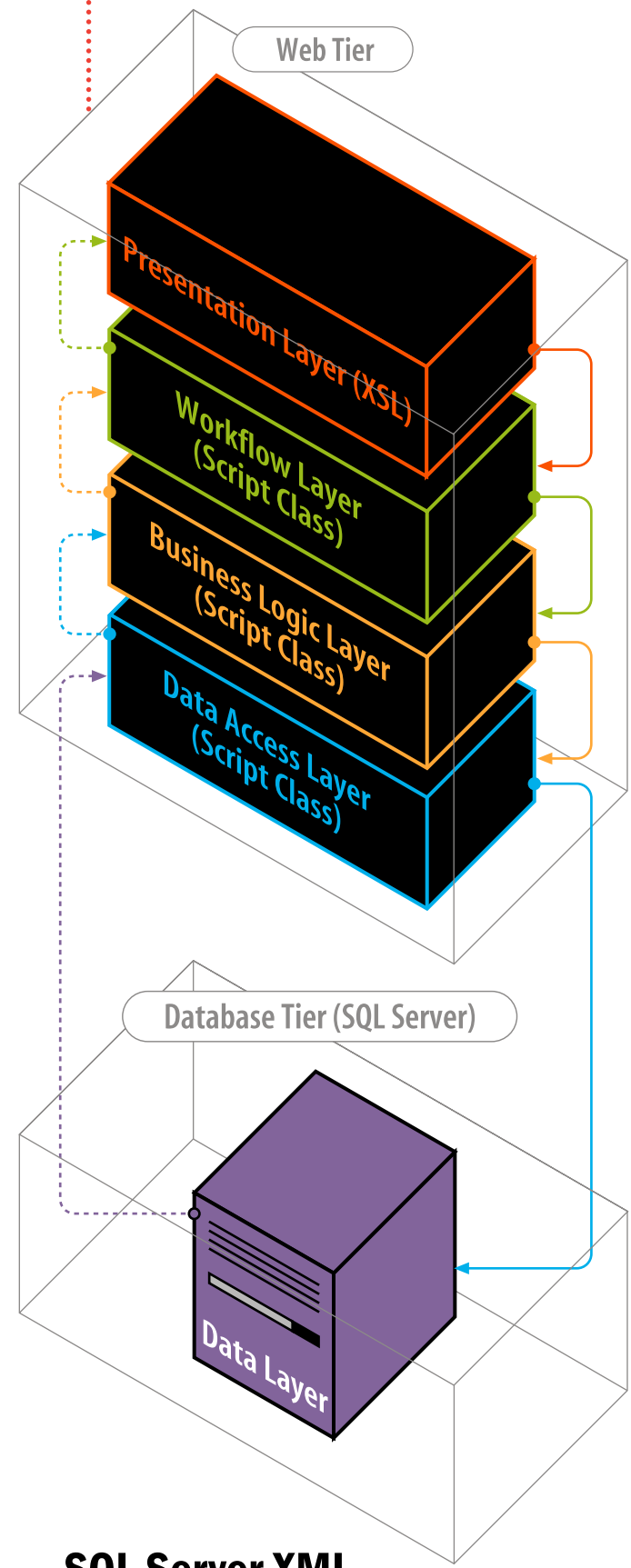
Windows DNA Architecture

This is the physical architecture for Duwamish Online. It closely mirrors the logical architecture seen in the upper-left corner of this page. However, for physical architecture, implementation is important, so the architecture indicates that the functionality is distributed between a Web tier and a database tier.



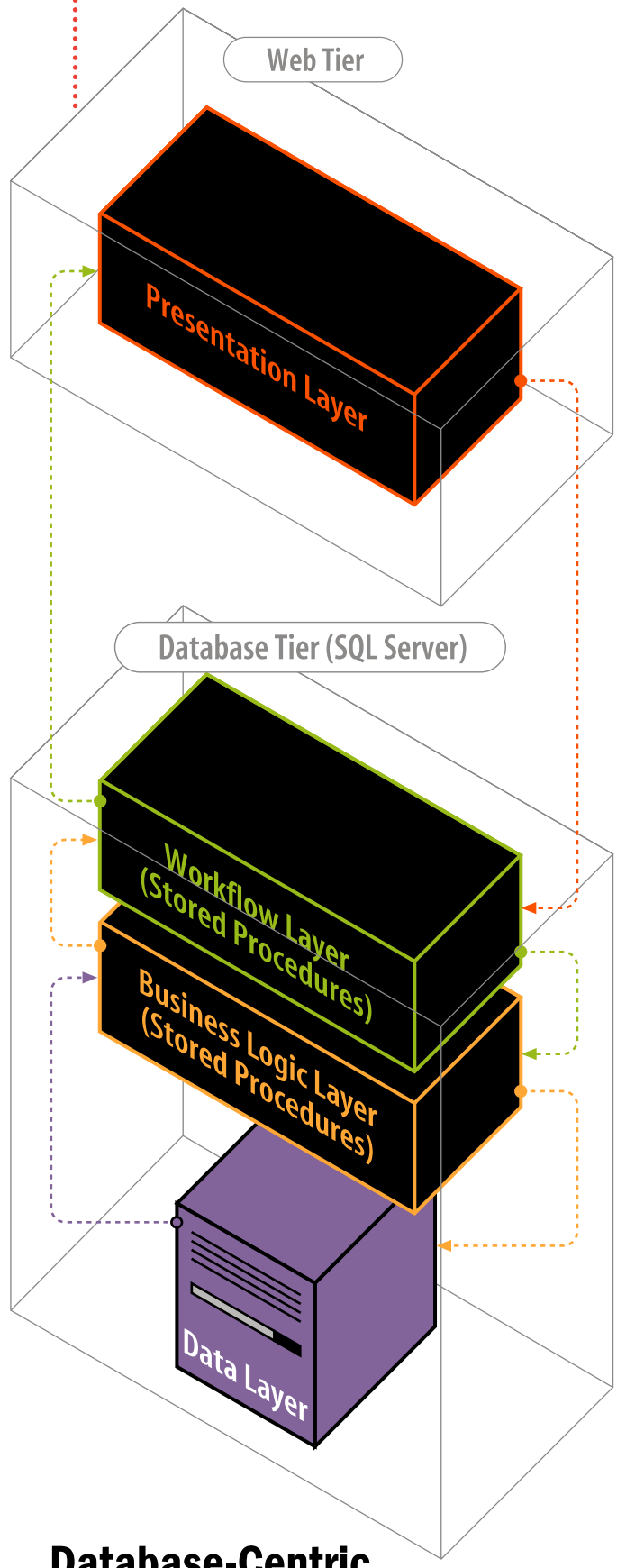
SQL Server XML Read-Side Architecture

This architecture takes full advantage of the XML support in SQL Server 2000. Stored procedures in the data layer return XML, and the Web tier runs on the SQL Server XML ISAPI application, enabling significant gains in performance with a minimal amount of application code. The write-side SQL Server XML architecture is a more flexible version of this design.



SQL Server XML Write-Side Architecture

This architecture makes sense for use cases that require functionality not found in SQL Server XML templates. The data layer takes full advantage of SQL Server XML features by accepting all updates and returning all results as XML. The upper layers are implemented using ASP script classes, a combination of ASP and COM+, or a custom ISAPI application.



Database-Centric Architecture

This architecture is most appropriate for data-driven applications. The business logic and workflow layers are moved down to the database tier and implemented as stored procedures in SQL Server. This architecture can improve the efficiency of applications that would otherwise require many round trips to the database. A drawback of this approach is that scaling out on the Web tier does not provide as much advantage as it does with the other architectures shown here.