.NET and C# in a TRAVERSE world

.NET framework is a development environment that provides:

- A rich set of built-in functionality
- A single programming model between windows and internet based applications
- Easy deployment and extensibility
- Portability of compiled applications
- Handling program configuration via config files
- Memory management (garbage collection)
- Cross language interaction
- Thousands of types grouped into namespaces – examples:
  - System.Windows.Forms – building windows GUI applications
  - System.XML – processing XML schemas and data

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TRAVERSE uses the n-tiered approach supported by .NET framework to split application into 3 tiers or layers.

The presentation (or client) layer is responsible for:

- Gathering information from the user
- Sending the user information to the business layer for processing
- Receiving the results of the business layer processing
- Presenting those results to the user

- TRAVERSE.Client.xxxxx.dll

The business layer is responsible for:

- Receiving input from the client layer
- Interacting with the data layer to perform the business operations
- Implementing business logic
- Sending the processed results to the client layer

- TRAVERSE.Business.xxxxx.dll

The data layer is responsible for:

- Storage of data
- Retrieval of data
- Maintenance of data
- Integrity of data

- TRAVERSE.Data.xxxxx.dll

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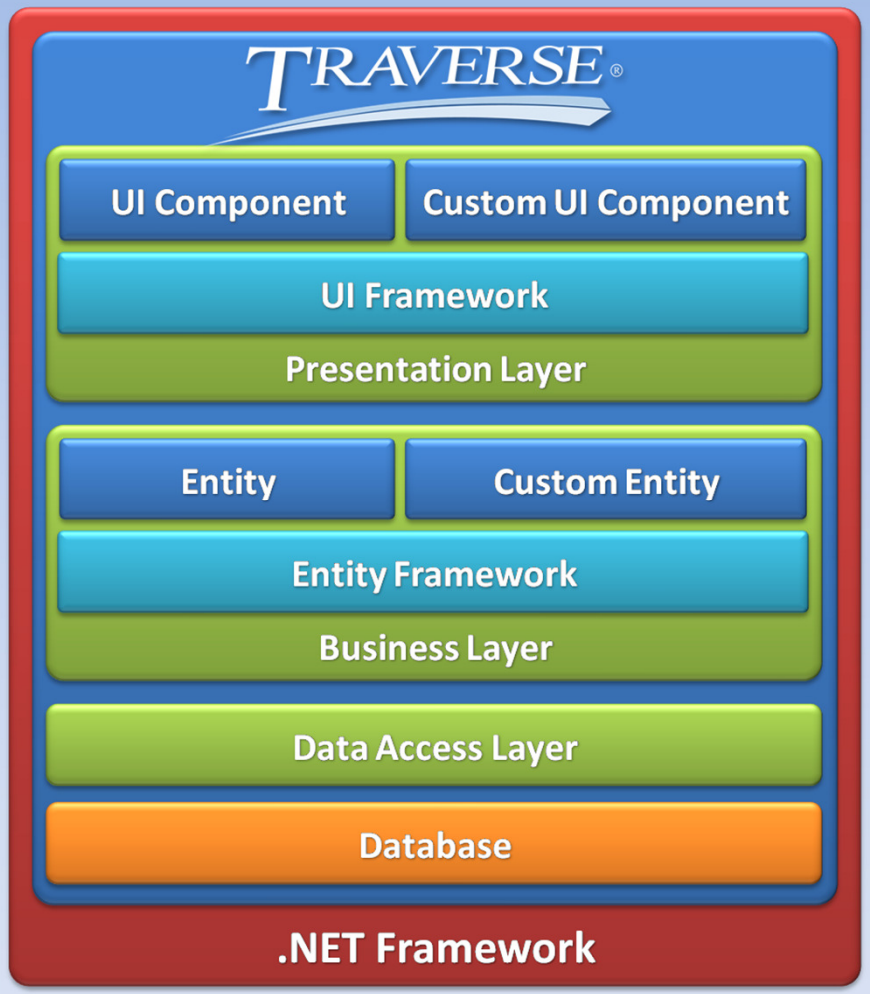

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TRAVERSE v11 utilizes Object Oriented Programming:

- Defines units of data and functions (of an entity) in classes (modularizes code)
- Allows users to only need to interact with a class via methods provided by the class
- Allows for Inheritance – new instances of classes derive from base classes
- Allows for Enhancement and Specification – redefining or extending the functionality of the base class
- Allows for Polymorphism – enables an entity to accept different parameters at execution that will allows method to handle multiple types

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C# code

```
using System;
using System.Collections.Generic;
using System.Text;
using TRAVERSE.Client.Contacts;

namespace          Client.CustomCustomers
{
    public class CustomCustomerPlugin : CustomerPlugin
    {
        public override void Initialize()
        {
            this.MainInterface = new CustomCustomerControl(this);
        }
```

Inheritance

```
using System;
using System.Collections.Generic;
using System.Text;
using System.Windows.Forms;
using TRAVERSE.Business;
using TRAVERSE.Client;
using TRAVERSE.Business.Contacts;
using TRAVERSE.Client.Contacts;

namespace OSI.MS(        .CustomCustomers
{
    class CustomCustomerControl:CustomerControl
    {
        public CustomCustomerControl(IPlugin host)
        {
            this.Load +=new EventHandler(CustomCustomerControl_Load);
        }

        void CustomCustomerControl_Load(object sender, EventArgs e)
        {
            //define field(s) to add
            CustomFieldsList fields = new CustomFieldsList();
            try
            {
                fields.Add(this.AllCustomFields["Logo"]);
            }
            catch { }

            //add field(s)
            this.CreateCustomFields(null, fields);
            this.CustomFieldControls["Logo"].DoubleClick += new EventHandler(CustomerLogo_DoubleClick);
        }
```

Extension

```
if (e.PropertyName.Equals(TransactionI
{
    ▲1 of 3▼ bool string.Equals (object obj)
    obj: An System.Object.
}
```

```
if (e.PropertyName.Equals(Transactic
{
    ▲2 of 3▼ bool string.Equals (string value)
    value: A System.String.
}
```

```
if (e.PropertyName.Equals(TransactionDetail.Columns.ItemId.
{
    ▲3 of 3▼ bool string.Equals (string value, StringComparison comparisonType)
    value: A System.String object.
}
```

Polymorphism

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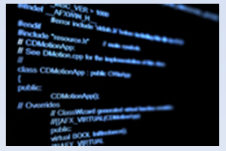

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TRAVERSE Menu – using Assembly Name and Plugin from modified C# project

Manage Favorites

12 of 12

Menu ID	Description	Assembly	Plugin
1200801	MSC - IN Items	TRAVERSE.Client.Inventory.dll	ItemPlugin
1100801	MSC - AR Customers	OSI.MSC.Client.CustomCustomers.dll	CustomCustomerPlugin
1250207	MSC - SO Orders	OSI.MSC.Client.CustomSalesOrder.dll	CustomSalesOrderPlugin
1300201	MSC - PO Transactions	OSI.MSC.Client.CustomPurchaseOrder.dll	CustomPurchaseOrderPlugin
1250850	MSC - SO Label Definitions	OSI.MSC.Client.CustomLabels.dll	CustomLabelPlugin
1250851	MSC - SO Certification Definitions	OSI.MSC.Client.CustomLabels.dll	CustomCertPlugin
1200819	MSC - IN Lot Numbers	TRAVERSE.Client.Inventory.dll	LotNumberPlugin
1200750	MSC - IN Inventory Count Sheet	OSI.MSC.Client.CustomPhysicalCounts.dll	CustomPhysicalCountsPlugin
1250350	MSC - SO Print Labels/Certs	OSI.MSC.Client.PrintLabelsCerts.dll	PrintLabelsCertsPlugin
1150201	SRC - GL Transactions	OSI.SRC.Client.CustomGLTransaction.dll	CustomTransactionPlugin
1150203	GL Edit Transactions	TRAVERSE.Client.GeneralLedger.dll	JournalPlugin
1100811	AR Sales Reps	OSI.ClientName.Client.SalesRep.dll	CustomPlugin

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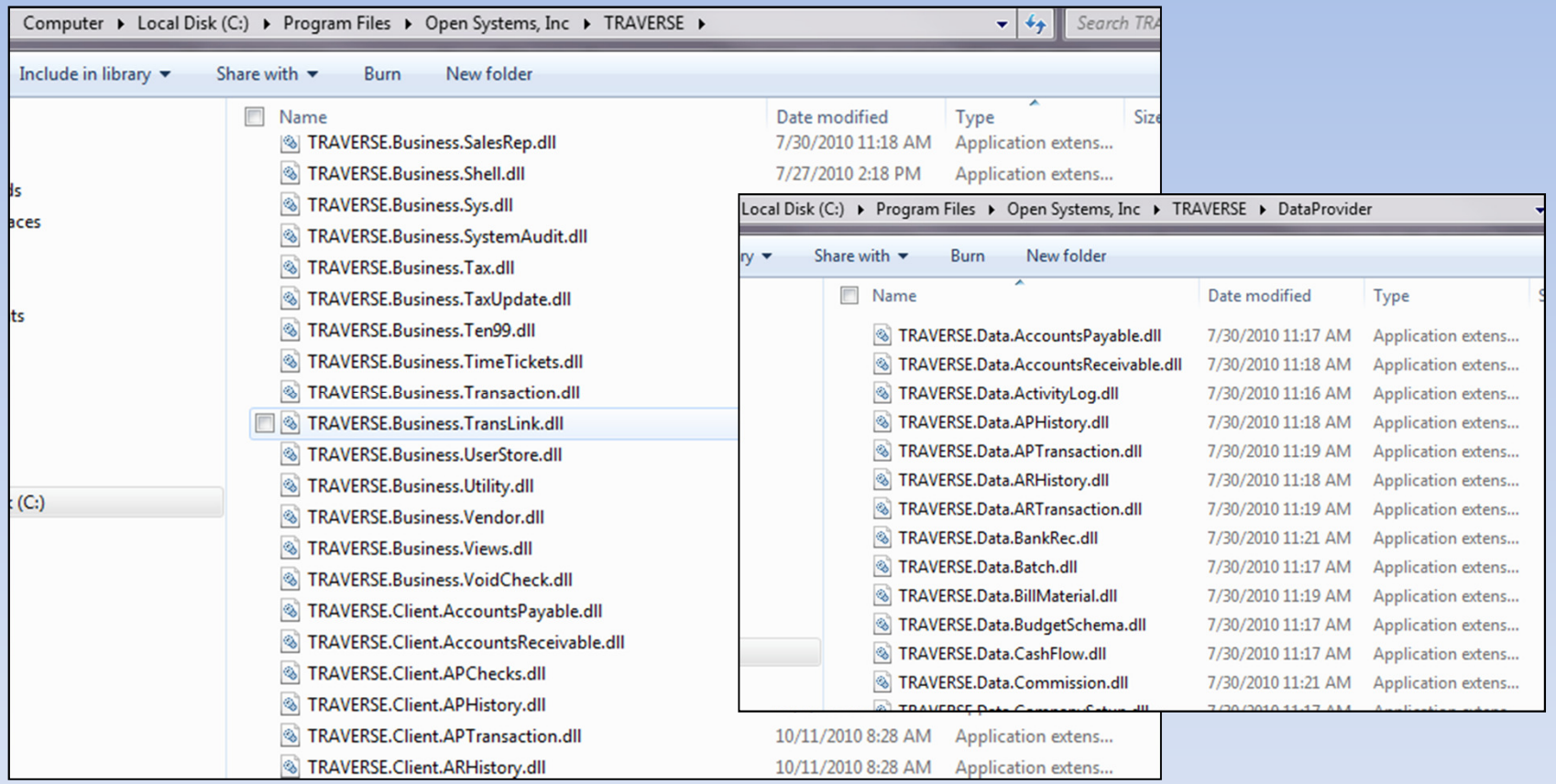
TRAVERSE Program directory – showing N-Tiered assemblies: Data/Business/Client



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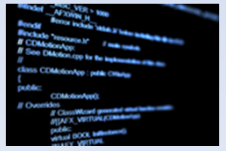

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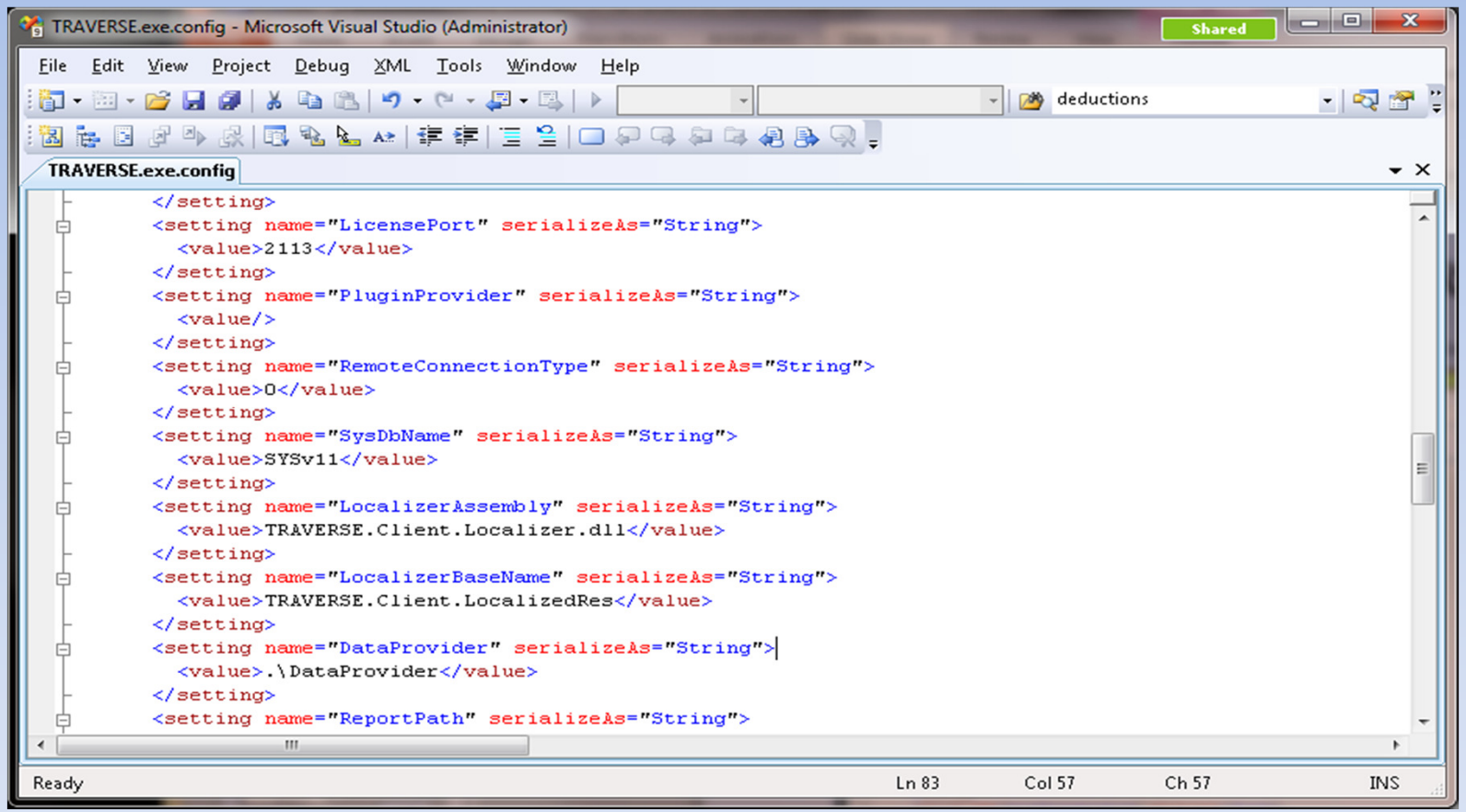
TRAVERSE.exe.config file – stores settings such as sys database name, port, etc



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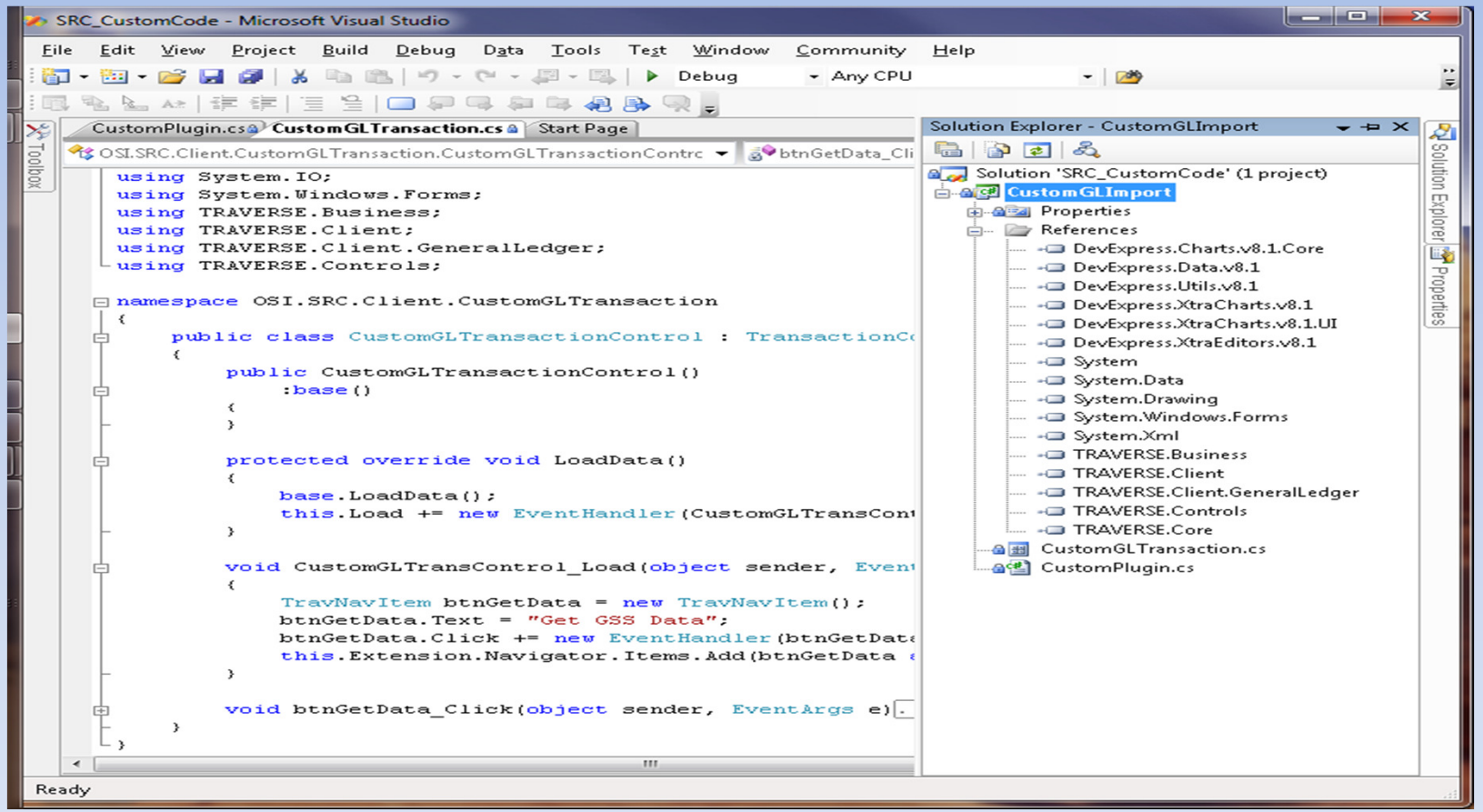
Assembly showing utilization of .NET base types (System.Windows.Forms)



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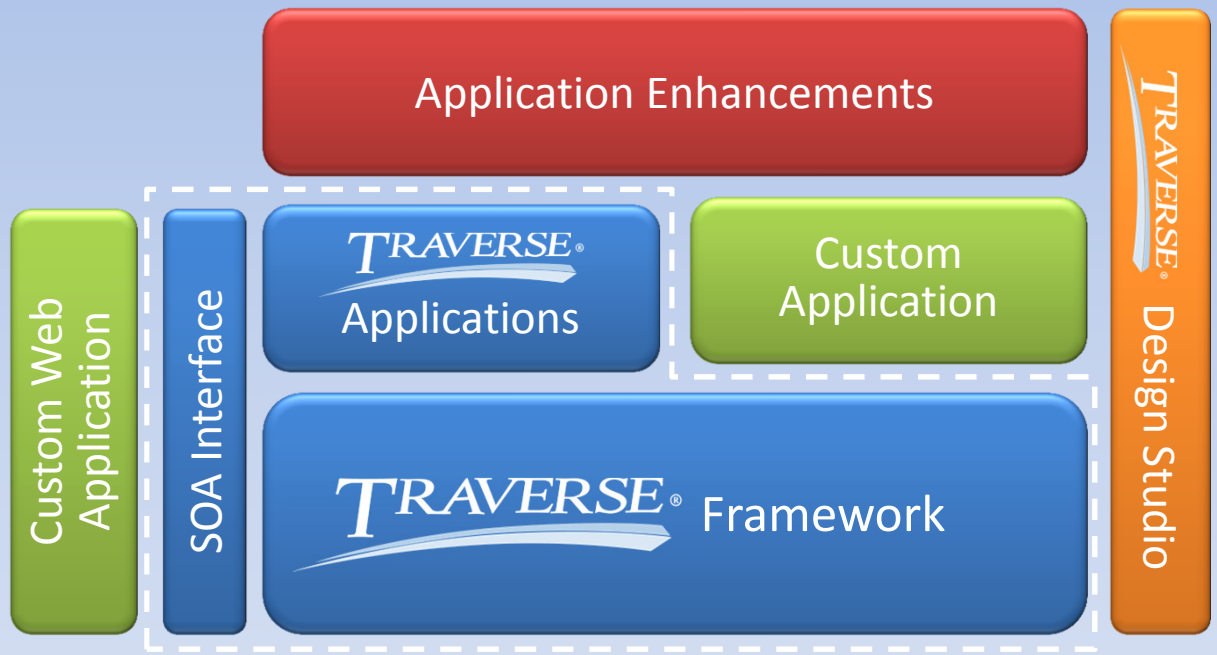
Environment built for extensibility:



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