**ASP.NET 3 Party (Server Hosted) VPC SHA256 Example Code**

## What files are included in the package?

* 3Party\_Order.aspx
  + Displays the input fields required to complete the transaction
* 3Party\_Receipt.aspx
  + Displays Digital Receipt data
* web.config
  + Contains configuration details
* VPCRequest.cs
  + Contains functions to connect to the gateway and construct SHA256 hash.
* PaymentCodesHelper.cs
  + Contains functions that help modify response codes to text

## How do I change from MD5 to SHA 256?

Get your developer to look at your current code and locate where the MD5 hash is being calculated. They will need to look at the logic below and replace the current MD5 hash calculation with the below SHA256 HMAC calculation.

**Step 1: Create string with transaction data via the merchant application.**

Create a string with field names and values using the POST data:

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| private string CreateSHA256Signature(bool useRequest)  {  // Hex Decode the Secure Secret for use in using the HMACSHA256 hasher  // hex decoding eliminates this source of error as it is independent of the character encoding  // hex decoding is precise in converting to a byte array and is the preferred form for representing binary values as hex strings.  byte[] convertedHash = new byte[\_secureSecret.Length / 2];  for (int i = 0; i < \_secureSecret.Length / 2; i++)  {  convertedHash[i] = (byte)Int32.Parse(\_secureSecret.Substring(i \* 2, 2), System.Globalization.NumberStyles.HexNumber);  }  // Build string from collection in preperation to be hashed  StringBuilder sb = new StringBuilder();  SortedList<String, String> list = (useRequest ? \_requestFields : \_responseFields);  foreach (KeyValuePair<string, string> kvp in list)  {  if (kvp.Key.StartsWith("vpc\_") || kvp.Key.StartsWith("user\_"))  sb.Append(kvp.Key + "=" + kvp.Value + "&");  }  // remove trailing & from string  if (sb.Length > 0)  sb.Remove(sb.Length - 1, 1);  …  … |

**Step 2: Create SHA256 HMAC**

* *Obtain Secure Hash Secret either from the existing MD5 calculation or from Merchant Administration*
* *Calculate SHA256 HMAC using the secret as a key to produce the secure hash*
* *Add the hash to the request string to send to the gateway*

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| // Create secureHash on string  string hexHash = "";  using (HMACSHA256 hasher = new HMACSHA256(convertedHash))  {  byte[] hashValue = hasher.ComputeHash(Encoding.UTF8.GetBytes(sb.ToString()));  foreach (byte b in hashValue)  {  hexHash += b.ToString("X2");  }  }  return hexHash;  }  }  }  …  …  …  //Hash the request fields  url.Append("&vpc\_SecureHash=");  url.Append(CreateSHA256Signature(true));  //Designate the hash type  url.Append("&vpc\_SecureHashType=SHA256");  return url.ToString();  } |

## Can I process 2.5 Party (Server Hosted with card details) transactions?

Yes, the process will use the same logic as above 3 Party example. Your developer will need to calculate the SHA256 HMAC and POST the data to the Payment Server.