NCR Counterpoint Training

Course 310: Offline Ticket Entry for NCR Counterpoint
### For Your Information...

Here is some logistical information about this training class:

<table>
<thead>
<tr>
<th>CLASS HOURS</th>
<th>Class starts promptly at 8:30 am and runs until 5:30 pm each day.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BREAKS</td>
<td>Normally, there is a 15-minute break during the morning and afternoon.</td>
</tr>
<tr>
<td>LUNCH</td>
<td>The instructor will stop class for approximately one hour to allow participants to enjoy their lunch.</td>
</tr>
<tr>
<td>PHONES</td>
<td>Please turn off your cell phone while in class. You can handle calls and text messages while on breaks and at lunch.</td>
</tr>
</tbody>
</table>
Offline Ticket Entry for NCR Counterpoint V8.5

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For Your Information
Overview of class format, training materials, and the training facility.

Section 1. Overview
What is Offline Ticket Entry and when would you use it? What functions can be used in offline mode? What technology does Offline Ticket Entry use? What is the role of CPServices? What does the network structure look like when using Offline Ticket Entry in a WAN or Multi-Site Configuration? What are the hardware and software requirements? How is Counterpoint registration handled?

Section 2. Deploying Offline Ticket Entry on Servers
Where are the files you need to install? How and in what order are each of them installed? What gets installed on each server? How do you provision a database and what does this do? What additional offline functions can be enabled in Counterpoint? How do you identify store(s) whose offline workstations will be managed by a server?

Section 3. Deploying Offline Ticket Entry on Workstations
What do you need to do if your workstations were using the old version of Offline Ticket Entry? Where are the Offline Ticket Entry files that you need to install on a workstation and in what order do you install them? What get installed on each offline workstation? How do you register a workstation with the server that will manage it and what does this process do? How does the workstation’s offline database get populated? How does a workstation go into offline mode?

Section 4. Data Synchronization
How does data entered in offline mode get synchronized with the server? When and where are synchronization packages produced? How does the Service Status help you to know when you need to work in offline mode? What other operations can you perform with Service Status?

Section 5. Managing the Offline Environment
How does the Management Console help to manage offline workstations? How do you correct transmission errors? What are the differences between a Full Extract, an Incremental Extract, and Rebuilding the POS database? What is the function of the Log Viewer? How do you handle Customizations in Offline Ticket Entry?

Appendices
Changing the port used by Counterpoint Services, Removing/Unregistering an Offline workstation, Tables Included in Configuration Packages, Tables Included in Ticket Packages, Tables Included in Device Packages, Offline Ticket Entry Glossary

Exercise Handbook
Exercises that illustrate the deployment of Offline Ticket Entry and the concepts presented in class.
Section 1: Overview

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What is Offline Ticket Entry?

- Allows Counterpoint to run in *offline mode* when a workstation cannot connect to its database server

- Useful for network outages, power failures, scheduled server maintenance, sidewalk sales, trade shows
Available Functions in Offline Mode

Offline Ticket Entry allows the following activities:

- Enter new tickets
- Enter pay-in / pay-out / pay-on-account transactions (without applying)
- Create new orders / layaways / quotes / holds
- Zoom on item information stored on any server
- View inventory details stored on any server
- Perform a validated return
- Enter new customers and edit existing customers
- Issue and redeem gift cards and store credits
- Recall local hold tickets
- View items / serial numbers / customers / vendors
- View inventory details
- Activate and count drawers; perform cash drops and cash loans
- Print credit card pre-settlement list (CPGateway only)
- Print X-tape / quotes / holds
- Configure Point of Sale devices
- Update workstation preferences
- Apply configuration changes received from server
- Clock in and out
- Hold and recall action
Offline Mode Limitations

Offline Ticket Entry does not allow the following activities:

- Updating quantity committed / available for items until tickets are processed at Server and updates are applied to workstation
- Updating customer balances or loyalty points until tickets are processed at Server and updates are applied to workstation
- Editing items or vendors
- Deleting customers
- Processing orders / layaways / quotes
- Voiding completed tickets
- Changing stocking or pricing location for ticket or line item
- Creating or maintain gift registries
- Printing Orders or Layaways Report
- Reconciling drawers or accessing Drawer Management
- Viewing or reporting on sales history (other than validated returns)
- Changing user preferences
- Posting tickets or transactions
- Accessing Message Center
- Using Dashboard
- Processing Inventory transactions
- Processing Purchasing documents
Offline Ticket Entry Synchronization

**Data Sync**

• Synchronizes **databases** between server and offline workstations

**File Sync**

• Synchronizes company’s **Configuration files** between server and offline workstations
Data Sync for Offline Ticket Entry

NCR Counterpoint Services (CPServices) runs on the Site Server and on each Offline Workstation to synchronize data.

- Produces XML files of data that needs to be synchronized
- Compresses (.zip format) XML files for synchronization
- Workstation downloads configuration data (A) from the server
- Workstation uploads ticket/customer/checksum data (B) to server

(A) Configuration Data  Flows from Site Server to Offline Workstation
(items, inventory records, tax information, price rules, etc.)

(B) Ticket/Customer/Checksum data  Flows from Offline Workstation to Site Server
(tickets, new orders, new layaways, new holds, new quotes, gift cards, store credits, new and changed customers, device configuration, station ticket checksums)
## What Data Sync Does

### On a Site Server:

<table>
<thead>
<tr>
<th>Every 1 minute</th>
<th>Processes packages</th>
<th>Imports tickets, drawer session info, checksum data, customer data, and device data in XML packages received from offline workstations, in the order received</th>
</tr>
</thead>
</table>
| Every 15 minutes | Creates XML package | • New/updated configuration data  
• Newly-posted tickets and settled EDC transactions |

### On an Offline Workstation:

<table>
<thead>
<tr>
<th>Contacts the server every 1 minute</th>
<th>“Heartbeat”</th>
<th>Check in with server for messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downloads</td>
<td>XML packages containing configuration data, and posted tickets and settled EDC transactions for workstation to delete</td>
<td></td>
</tr>
<tr>
<td>Uploads</td>
<td>XML packages containing new tickets, customer data, drawer session data, device settings, and checksum data</td>
<td></td>
</tr>
</tbody>
</table>
| Updates station checksums           | For drawer session:  
• POS document count  
• POS document line count  
• Total $ amount |
| Creates XML package                 | Extracts new tickets, drawer session stats, station checksums, customer changes |
| Every 15 minutes                    | Creates XML package | Extracts any miscellaneous changes (e.g., device setup) done since last extraction |

### On Offline Workstations and Site Servers:

| Every 24 hours (at 3:00 AM) | Purges XML packages | • In \Sent, \Delivered, \Backups, and \Processed folders if more than 7 days old  
• In \Outbox folder if more than 30 days old |
|-----------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------|
File Sync for Offline Ticket Entry

- Must be using same version of CP for file synchronization to occur

(A) Station Snapshot of Configuration files flows from Offline Workstation to Site Server.

(B) Updated Configuration and SoftwareUpdates files flow from Site Server to Offline Workstation.
## What File Sync Does

### On a Site Server:

<table>
<thead>
<tr>
<th>Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every 1 minute</td>
<td><strong>Processes snapshot sent by each station</strong></td>
</tr>
<tr>
<td></td>
<td>As snapshot is received, compares workstation Configuration files snapshot</td>
</tr>
<tr>
<td></td>
<td>to server snapshot, and prepares package containing new and updated files</td>
</tr>
<tr>
<td></td>
<td>for workstation.</td>
</tr>
<tr>
<td>Every 1 minute</td>
<td><strong>Processes deletions made by server</strong></td>
</tr>
<tr>
<td></td>
<td>Detects deletions in server’s Configuration files, and prepares package</td>
</tr>
<tr>
<td></td>
<td>containing list of deletions for all workstations.</td>
</tr>
<tr>
<td></td>
<td>Notification of deletion package for offline workstations is set up</td>
</tr>
<tr>
<td></td>
<td>immediately.</td>
</tr>
</tbody>
</table>

### On an Offline Workstation:

<table>
<thead>
<tr>
<th>Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 3:00 AM each day</td>
<td><strong>Creates snapshot</strong></td>
</tr>
<tr>
<td></td>
<td>Takes snapshot of workstation’s Configuration files and sends to server</td>
</tr>
<tr>
<td>Every 1 minute</td>
<td><strong>“Heartbeat”</strong></td>
</tr>
<tr>
<td></td>
<td>Check in with server for messages</td>
</tr>
<tr>
<td>Downloads</td>
<td>• Zip file (.fsp) containing additions &amp; updates to Configuration files</td>
</tr>
<tr>
<td></td>
<td>• Extracts contents 1 minute after download.</td>
</tr>
<tr>
<td></td>
<td>• Zip file (.fsp) containing manifest of files to delete</td>
</tr>
</tbody>
</table>
**Example Offline Configuration: WAN (Terminal Services)**

- **Host Site**
  - Terminal Server
  - Counterpoint Server

- **Store A**
  - POS Station 1
  - POS Station 2
  - POS Station N

- **Store B**
  - POS Station 1
  - POS Station 2
  - POS Station N

- **Store C**
  - POS Station 1
  - POS Station 2
  - POS Station N
Example Offline Configuration: LAN or Multi-Site

- Store A (LAN)
  - Site Server
  - POS Station 1
  - POS Station 2
  - POS Station N

- Store B (LAN)
  - Site Server
  - POS Station 1
  - POS Station 2
  - POS Station N
Hardware and Software Requirements

Offline Ticket Entry Server

The specifications outlined below are minimum requirements that may not be adequate in a “real-world” environment. Refer to the Server Sizing Guide for more specific requirements for servers.

### Site Server

<table>
<thead>
<tr>
<th>Function</th>
<th>Hardware and Software Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCR Counterpoint Server</td>
<td>• Operating System:</td>
</tr>
<tr>
<td></td>
<td>- Windows Server 2012 R2 (64-bit)</td>
</tr>
<tr>
<td>Counterpoint Options:</td>
<td>- Windows Server 2008 (32-bit or 64-bit)</td>
</tr>
<tr>
<td></td>
<td>- Windows 10 (64-bit)</td>
</tr>
<tr>
<td></td>
<td>- Windows 8.1 (64-bit)</td>
</tr>
<tr>
<td></td>
<td>- Windows 7 (32-bit or 64-bit)</td>
</tr>
<tr>
<td></td>
<td>• 2 GHz Pentium Dual-core or better</td>
</tr>
<tr>
<td></td>
<td>• 8 GB memory</td>
</tr>
<tr>
<td></td>
<td>• MSSQL 2016, 2012 or MSSQL 2008 R2 (Standard, Enterprise, or Business/Workgroup Edition) or SSE 2016/2012/2008 R2, configured for SQL Server Authentication</td>
</tr>
<tr>
<td></td>
<td>• Named Pipes and TCP/IP</td>
</tr>
<tr>
<td></td>
<td>• Static IP/ network address or DNS-resolvable host name</td>
</tr>
<tr>
<td></td>
<td>• Disable Shared Memory protocol</td>
</tr>
<tr>
<td></td>
<td>• Internet connection</td>
</tr>
<tr>
<td></td>
<td>• Clock synchronization software</td>
</tr>
<tr>
<td></td>
<td>• Open port 51968 (CPServices port)</td>
</tr>
</tbody>
</table>

If missing, installed by CPSQLPrereqs.exe

Browse to the Counterpoint Complete download and copy \CPSQLPrereqs directory to the server’s local drive.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Microsoft .NET Framework 3.5 SP1*</td>
</tr>
<tr>
<td></td>
<td>• Microsoft .NET Framework 4.0</td>
</tr>
<tr>
<td></td>
<td>• Microsoft .NET Framework 4.6.2</td>
</tr>
<tr>
<td></td>
<td>• SQL Server Native Client</td>
</tr>
<tr>
<td></td>
<td>• SQL Server Management Objects</td>
</tr>
<tr>
<td></td>
<td>• SQL XML 4</td>
</tr>
<tr>
<td></td>
<td>• SQL Server 2008 Shared Management Objects</td>
</tr>
<tr>
<td></td>
<td>• SQL Server 2008 System CLR Types</td>
</tr>
<tr>
<td></td>
<td>• SQL Server 2008 R2 Express (if default instance of MSSQL is not detected)**</td>
</tr>
</tbody>
</table>

* On Windows Server 2008 or 2012, before installing CPSQLPrereqs.exe, use Start > Administrative Tools > Server Manager to install .NET Framework 3.5 SP1.

** On 32-bit operating systems, before installing SSE, use Add or Remove Programs to remove Microsoft SQL Server Native Client.
## Offline Ticket Entry Workstation

### Workstation (Offline)

<table>
<thead>
<tr>
<th>Function</th>
<th>Hardware and Software Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counterpoint workstation that acts as its own &quot;server&quot; when disconnected from normal Counterpoint server</td>
<td>- Operating System:&lt;br&gt;  - Windows 10 (64-bit)&lt;br&gt;  - Windows 8.1 (64-bit)&lt;br&gt;  - Windows 7 (32-bit or 64-bit)&lt;br&gt;  - 1.6 GHz Pentium M or better&lt;br&gt;  - 4 GB memory&lt;br&gt;  - 80 GB local hard drive space&lt;br&gt;  - MSSQL 2016, 2012 or MSSQL 2008 R2 (Standard, Enterprise, or Business/Workgroup Edition) or SSE 2016/2012/2008 R2, installed as default instance*&lt;br&gt;  - Static IP/ network address or DNS-resolvable host name&lt;br&gt;  - Internet connection&lt;br&gt;  - Clock synchronization software&lt;br&gt;  - Open port 51968 (CPServices port)</td>
</tr>
<tr>
<td>If missing, installed by <strong>CPSQLPrereqs.exe</strong></td>
<td>- Microsoft .NET Framework 3.5 SP1&lt;br&gt;  - Microsoft .NET Framework 4.0&lt;br&gt;  - Microsoft .NET Framework 4.6.2&lt;br&gt;  - SQL Server Native Client&lt;br&gt;  - SQL Server Management Objects&lt;br&gt;  - SQL XML 4&lt;br&gt;  - SQL Server 2008 Shared Management Objects&lt;br&gt;  - SQL Server 2008 System CLR Types&lt;br&gt;  - SQL Server 2008 R2 Express (if default instance of MSSQL is not detected)**</td>
</tr>
</tbody>
</table>

* Microsoft SQL Server must be configured for "mixed mode" to allow for SQL authentication.

** On 32-bit operating systems, before installing SSE, use **Add or Remove Programs** to remove Microsoft SQL Server Native Client.
Section 2: Deploying Offline Ticket Entry

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## WAN/Terminal Services Configuration

### Counterpoint/MSSQL Server(s)

<table>
<thead>
<tr>
<th>Configuration Step</th>
<th>Offline Ticket Entry Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Install MS SQL Server</td>
<td>Enable Named Pipes &amp; TCP/IP protocols</td>
</tr>
<tr>
<td>☐ If using Windows Server 2008/2012 R2, use Server Manager to install .NET Framework 3.5.1</td>
<td></td>
</tr>
<tr>
<td>☐ If installing SSE 2016/2012/2008 R2 on 32-bit OS, use Add or Remove Programs to remove MSSQL Server Native Client</td>
<td></td>
</tr>
<tr>
<td>☐ Install Counterpoint Prerequisites</td>
<td>Server? = Standalone Server</td>
</tr>
<tr>
<td>☐ Copy custom schema scripts to <code>\Custom</code> folder</td>
<td></td>
</tr>
<tr>
<td>☐ Install Counterpoint (<code>Setup.exe</code>)</td>
<td>Select Role = Primary server (WAN or Standalone)</td>
</tr>
<tr>
<td></td>
<td>Will this server support Offline Stations = Yes*</td>
</tr>
<tr>
<td></td>
<td>* If adding Offline Ticket Entry to an existing Counterpoint environment, do not reinstall Counterpoint on the server. Instead, use Configure Local Services to enable the Is Hub server or supports Offline stations? check box.</td>
</tr>
<tr>
<td>☐ Install CP Service Pack</td>
<td></td>
</tr>
<tr>
<td>☐ Download &amp; copy <code>registration.ini</code> to <code>\TopLevel</code> directory</td>
<td>Copied to workstation by <code>ClientSetup.exe</code></td>
</tr>
<tr>
<td></td>
<td>Copied by CPServices for workstations with no direct connection to server.</td>
</tr>
<tr>
<td>☐ Start Counterpoint</td>
<td>Define stores (<code>Setup &gt; Point of Sale &gt; Stores</code>)</td>
</tr>
<tr>
<td></td>
<td>Define stations (<code>Setup &gt; Point of Sale &gt; Stations</code>)</td>
</tr>
<tr>
<td></td>
<td>Authorize Counterpoint system administrators (<code>Setup &gt; System &gt; Security Codes</code>)</td>
</tr>
<tr>
<td>☐ Open CPServices port</td>
<td></td>
</tr>
<tr>
<td>☐ Start Management Console</td>
<td>Select stores to be managed for Offline Ticket Entry by this server</td>
</tr>
<tr>
<td>☐ If updating from V8.4.6 Offline Ticket Entry Option, use Management Console to rebuild offline databases</td>
<td>Wait until after Counterpoint V8.5 has been installed on offline workstations</td>
</tr>
</tbody>
</table>
## Terminal Server/Remote Desktop Server

<table>
<thead>
<tr>
<th>Configuration Steps</th>
<th>Offline Ticket Entry Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Install Counterpoint Prerequisites</td>
<td>Server? = Non Offline Workstation</td>
</tr>
<tr>
<td>□ Use Install a Program from the network in Control Panel &gt; Programs and Features to run ClientSetup.exe (Counterpoint workstation installation)*</td>
<td>Select Role = Never Offline workstation</td>
</tr>
<tr>
<td>□ Install OPOS drivers for devices (V8.5.3 or earlier)</td>
<td></td>
</tr>
</tbody>
</table>

* Ensures that Windows allows for Counterpoint to be used in multi-user mode on the terminal server workstation.

**NOTE:** The Counterpoint Service Pack installed on the server will be applied to the Terminal Server/Remote Desktop Server automatically when Counterpoint is started.

## Offline Workstations

<table>
<thead>
<tr>
<th>Configuration Steps</th>
<th>Offline Ticket Entry Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Set up remote desktop connection</td>
<td></td>
</tr>
<tr>
<td>□ Edit Windows registry to redirect ports to Terminal Server (V8.5.3 or earlier)</td>
<td></td>
</tr>
<tr>
<td>□ Install Counterpoint Prerequisites</td>
<td>Server? = Offline Workstation</td>
</tr>
</tbody>
</table>
| □ Install Counterpoint (**ClientSetup.exe**) | Select Role = Always Offline or Sometimes Offline
- Creates offline database
- Adds shortcut to run Counterpoint in Offline mode
- Adds extra shortcut for Sometimes Offline to run in Online mode
  Automatically launches **RegisterNode.exe** to register workstation with server
  - Workgroup, station & store automatically used when workstation runs Counterpoint in offline mode
  - Select Initialize Now or use Rebuild POS in Management Console |
| □ Install Counterpoint Service Pack | If workstation is **Always Offline** |
# LAN Configuration

## Counterpoint/MSSQL Server

<table>
<thead>
<tr>
<th>Configuration Steps</th>
<th>Offline Ticket Entry Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Install MS SQL Server (optional)</td>
<td>Enable Named Pipes &amp; TCP/IP protocols</td>
</tr>
<tr>
<td>☐ If using Windows Server 2008/2012 R2, use Server Manager to install .NET Framework 3.5.1</td>
<td></td>
</tr>
<tr>
<td>☐ If installing SSE 2016/2012/2008 R2 on 32-bit OS, use Add or Remove Programs to remove MSSQL Server Native Client</td>
<td></td>
</tr>
<tr>
<td>☐ Install Counterpoint Prerequisites</td>
<td>Server? = Standalone Server</td>
</tr>
<tr>
<td>☐ Copy custom schema scripts to \Custom folder</td>
<td></td>
</tr>
</tbody>
</table>
| ☐ Install Counterpoint (Setup.exe) | Select Role = Primary server (WAN or Standalone)  
Will this server support Offline Stations = Yes*  
* If adding Offline Ticket Entry to an existing Counterpoint environment, use Configure Local Services to enable the Is Hub server or supports Offline stations? check box.  |
| ☐ Install CP Service Pack | |
| ☐ Download & copy registration.ini to \TopLevel directory | Copied to workstation by ClientSetup.exe  
Copied by CPServices for workstations with no direct connection to server.  |
| ☐ Start Counterpoint | Define stores (Setup > Point of Sale > Stores)  
Define stations (Setup > Point of Sale > Stations)  
Authorize Counterpoint system administrators (Setup > System > Security Codes)  |
| ☐ Open CPServices port | |
| ☐ Start Management Console | Select stores to be managed for Offline Ticket Entry by this server  |
| ☐ If updating from V8.4.6 Offline Ticket Entry Option, use Management Console to rebuild offline databases | Wait until after Counterpoint V8.5 has been installed on offline workstations |
## Offline Workstations

<table>
<thead>
<tr>
<th>Configuration Steps</th>
<th>Offline Ticket Entry Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Install MS SQL Server (optional)</td>
<td>Enable Named Pipes &amp; TCP/IP protocols</td>
</tr>
<tr>
<td>□ If installing SSE 2016/2012/2008 R2 on 32-bit OS, use Add or Remove Programs to remove MSSQL Server Native Client</td>
<td></td>
</tr>
<tr>
<td>□ Install Counterpoint Prerequisites</td>
<td>Server? = <strong>Offline Workstation</strong></td>
</tr>
<tr>
<td>□ Install Counterpoint (<a href="#">ClientSetup.exe</a>)</td>
<td>Select Role = <em>Always Offline</em> or <em>Sometimes Offline</em></td>
</tr>
<tr>
<td></td>
<td>• Creates offline database</td>
</tr>
<tr>
<td></td>
<td>• Adds shortcut to run Counterpoint in Offline mode</td>
</tr>
<tr>
<td></td>
<td>• Adds extra shortcut for Sometimes Offline to run in Online mode</td>
</tr>
<tr>
<td></td>
<td>Automatically launches <strong>RegisterNode.exe</strong> to register workstation with server</td>
</tr>
<tr>
<td></td>
<td>• Workgroup, station &amp; store automatically used when workstation runs Counterpoint in offline mode</td>
</tr>
<tr>
<td></td>
<td>• Select <strong>Initialize Now</strong> or use <strong>Rebuild POS</strong> in Management Console</td>
</tr>
<tr>
<td>□ Install Counterpoint Service Pack</td>
<td>If workstation is <strong>Always Offline</strong></td>
</tr>
</tbody>
</table>
## Multi-Site Configuration

### Hub Server

<table>
<thead>
<tr>
<th>Configuration Step</th>
<th>Offline Ticket Entry Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Install MS SQL Server</td>
<td>Enable Named Pipes &amp; TCP/IP protocols</td>
</tr>
<tr>
<td>□ If using Windows Server 2008/2012 R2, use Server Manager to install .NET Framework 3.5.1</td>
<td></td>
</tr>
<tr>
<td>□ Install Counterpoint Prerequisites</td>
<td>Server? = Mutli-Site Server (Hub or Remote)</td>
</tr>
<tr>
<td>□ Install and enable clock synchronization software</td>
<td></td>
</tr>
<tr>
<td>□ Download registration.hub and copy to \Custom folder (only on Hub server)</td>
<td>Registration.ini copied to workstation by ClientSetup.exe Copied by CPServices for workstations with no direct connection to server.</td>
</tr>
<tr>
<td>□ If applicable, copy custom schema scripts and replication rules to \Custom folder</td>
<td></td>
</tr>
<tr>
<td>□ If one exists, attach pre-configured V8.5 database to SQL Server</td>
<td></td>
</tr>
<tr>
<td>□ Install Counterpoint (Setup.exe)</td>
<td>Select Role = Multi-Site Hub Server with Remote servers reporting to it Will this server support Offline Stations = Yes • Only if Hub server has offline workstations</td>
</tr>
<tr>
<td>□ Install CP Service Pack</td>
<td></td>
</tr>
<tr>
<td>□ Start Counterpoint</td>
<td>Define stores (Setup &gt; Point of Sale &gt; Stores) Define stations (Setup &gt; Point of Sale &gt; Stations) Authorize Counterpoint system administrators (Setup &gt; System &gt; Security Codes)</td>
</tr>
<tr>
<td>□ Open CPServices port &amp; port 242</td>
<td></td>
</tr>
<tr>
<td>□ Configure Remote servers (see next page)</td>
<td></td>
</tr>
<tr>
<td>□ Start Multi-Site Configuration Editor</td>
<td>If necessary, update work set subscriptions for each site and build replication schedule</td>
</tr>
<tr>
<td>□ Start Management Console</td>
<td>Select stores to be managed for Offline Ticket Entry by Hub server</td>
</tr>
<tr>
<td>□ If updating from V8.4.6 Offline Ticket Entry Option, use Management Console to rebuild offline databases</td>
<td>Wait until after Counterpoint V8.5 has been installed on offline workstations</td>
</tr>
</tbody>
</table>
## Remote Server(s)

<table>
<thead>
<tr>
<th>Configuration Steps</th>
<th>Offline Ticket Entry Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Install MS SQL Server (optional)</td>
<td>Enable Named Pipes &amp; TCP/IP protocols</td>
</tr>
<tr>
<td>□ If using Windows Server 2008/2012 R2, use Server Manager to install .NET Framework 3.5.1</td>
<td></td>
</tr>
<tr>
<td>□ If installing SSE 2016/2012/2008 R2 on 32-bit OS, use Add or Remove Programs to remove MSSQL Server Native Client</td>
<td></td>
</tr>
<tr>
<td>□ Install Counterpoint Prerequisites</td>
<td>Server? = Multi-Site server (Hub or Remote)</td>
</tr>
<tr>
<td>□ Install and enable clock synchronization software</td>
<td></td>
</tr>
<tr>
<td>□ If applicable, copy custom schema scripts and replication rules to \Custom folder</td>
<td></td>
</tr>
</tbody>
</table>
| □ Install Counterpoint (Setup.exe) | Select Role = **Multi-Site Remote Server that reports to a Hub**  
  Will this server support Offline Stations = Yes*  
  • If Remote server has offline workstations  
  * If adding Offline Ticket Entry to an existing Counterpoint environment, use **Configure Local Services** to enable the **Is Hub server or supports Offline stations?** check box. |
| □ Install CP Service Pack | |
| □ Open CPServices port & port 242 | |
| □ If updating from V8.4.6 Offline Ticket Entry Option, use Management Console to rebuild offline databases | Wait until after Counterpoint V8.5 has been installed on offline workstations |
## Offline Workstations

<table>
<thead>
<tr>
<th>Configuration Steps</th>
<th>Offline Ticket Entry Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Install MS SQL Server (optional)</td>
<td>Enable Named Pipes &amp; TCP/IP protocols</td>
</tr>
<tr>
<td>☐ If installing SSE 2016/2012/2008 R2 on 32-bit OS, use Add or Remove Programs to remove MSSQL Server Native Client</td>
<td></td>
</tr>
<tr>
<td>☐ Install Counterpoint Prerequisites</td>
<td>Server? = <strong>Offline Workstation</strong></td>
</tr>
</tbody>
</table>
| ☐ Install Counterpoint (**ClientSetup.exe**) | Select Role = **Always Offline** or **Sometimes Offline**  
- Creates offline database  
- Adds shortcut to run Counterpoint in Offline mode  
- Adds extra shortcut for Sometimes Offline to run in Online mode  
  Automatically launches **RegisterNode.exe** to register workstation with server  
- Workgroup, station & store automatically used when workstation runs Counterpoint in offline mode  
- If deploying a single workstation, select **Initialize Now**  
- If deploying multiple workstations for the same store, use **Rebuild POS** in Management Console |
| ☐ Install Counterpoint Service Pack | If workstation is **Always Offline** |
Exercise 1: Prepare the Server

Try it yourself!

In class, you are a member of a team that includes up to four students. Each team has been provided either two or three computers.

If you have two systems, some configuration is already done but Counterpoint is not installed yet.

If you have three systems, they are already configured to run Counterpoint in a Multi-Site environment and are running as a replication network. In this case, the Hub system will not be involved in your Offline Ticket Entry exercises and you can ignore it (but leave the Hub system running).

The other two systems (REMOTE1 and OFFLINE1) share one monitor, mouse, and keyboard with a switch that will allow you to control which computer is active on the monitor and mouse/keyboard.

The name of the REMOTE1 server was changed to EAST-STORE in an exercise in the Multi-Site class, so replace all references to REMOTE1 in this manual with EAST-STORE.

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>REMOTE1</td>
<td>Site Server</td>
</tr>
<tr>
<td>(EAST-STORE)</td>
<td></td>
</tr>
<tr>
<td>OFFLINE1</td>
<td>Workstation connected to REMOTE1 that you will configure for use as an offline workstation</td>
</tr>
</tbody>
</table>

The Windows login for each of these systems is ADMIN and the password is password.

In this exercise, you will perform these steps:

- Verify hardware requirements
- Install Counterpoint Prerequisites on the REMOTE1 site server
- Ensure that remote connections on REMOTE1 allow for TCP/IP and Named Pipes
- Ensure that the Shared Memory protocol is disabled
- Verify that the SQL Server service is running on REMOTE1

Refer to Exercise 1 in the Offline Ticket Entry Exercise Handbook for details.

When you are finished with the exercise, return to this manual.
Offline Ticket Entry Environment

- When a Service Pack is installed on a server, data model changes are automatically applied to the server’s database and the database is re-provisioned.

- When a connected workstation next starts Counterpoint, the Service Pack is applied to the workstation’s “online” and “offline” installations of Counterpoint.

- After applying Service Pack to a server that results in the re-provisioning of the database, server needs to select Rebuild (in Management Console) for all offline workstations so that the offline databases are fully replaced.

- Use **Start > All Programs > NCR Counterpoint > Utilities > Provision Database** to manually re-provision a server’s database.

- Run **CPSP85.exe** manually on **Always Offline** workstations.

- In WAN environments, install the current **NCRWANClient.exe** on non-offline and **Sometimes Offline** workstations.
Store Settings for Offline Ticket Entry

Select Setup > Point of Sale > Stores to display the Stores window, which allows you to configure store-level settings for use with Offline Ticket Entry.

- Enable the following activities for use in offline mode:
  - Issue and/or redeem gift cards
  - Issue and/or redeem store credits
  - Create new orders
  - Create new layaways
  - Edit customers

- Risk of changes being made to the same document at different offline workstations (or stores)
Station Settings for Offline Ticket Entry

Select **Setup > Point of Sale > Stations** to display the **Stations** window, which allows you to configure station-level settings for use with Offline Ticket Entry.

- Force numbers for various documents to be auto-assigned in offline mode
- Avoids potential data conflicts during synchronization with server
- Prevents users from manually entering document numbers
Menu Code Settings for Offline Ticket Entry

Select **Setup > System > Menu Codes** to display the **Menu Codes** window, select a menu code, and click **Menu Editor** to display the **Menu Editor** window.

- Prevent access to specific standard menu selections while in offline mode
- Provide offline mode access to Custom maintenance form, Custom program, Custom report, and External program menu items
Exercise 2: Deploy Counterpoint and Build Data for Offline Use

Try it yourself!

In this exercise, you will:

- Install Counterpoint and build company data on the Remote server
- Enable the configuration setting that allows a previously non-offline server to support Offline Ticket Entry workstations
- Open the port that will be used by CP Services
- Configure the EAST store and stations to allow special activities while offline
- Set auto-assign document numbers that will be used by a station while offline

Perform Exercise 2 in the Offline Ticket Entry Exercise Handbook.
Provisioning the Server Database

Provision the Database for Offline Use

- Database for company is automatically provisioned on a server when Counterpoint is installed or a Counterpoint Service Pack with schema changes is installed
- Manually provision database again after applying custom database schema changes, and then rebuild all offline databases
- Ensure that CPServices is running on server (use Configure Local Services utility to check)

Select **Start > All Programs > NCR Counterpoint > Utilities > Provision Database** to start the Provision Database utility, which allows you to provision a database manually.

Select the **CompanyAlias** for the database you want to provision.

Enter the **SQL User ID** and **SQL Password** of a SQL user that has the *db_creator* or *sys_admin* server role for the database.

Click the **Provision** button to manually provision the specified database.

A progress bar appears during the provisioning process.

Provisioning takes about 5 minutes, regardless of database size.
Section 2: Deploying Offline Ticket Entry

Provisioning the Server Database

What Happens During Provisioning?

- Creates folders under \CPSQL.1\Scripts
- Generates in \CPSQL.1\Scripts directory on server:
  - POS folder containing scripts
    - Applied to offline workstation’s database during initialization
    - Scripts that add tables and stored procedures to track:
      - Ticket and draft capture insertions
      - Configuration changes
      - Device changes
    - BuildDatabase.sql
      - Contains schema of server’s database
      - Used when offline workstation initializes its database
      - Errors caused by incorrect SQL syntax recorded in BuildDatabase_Exceptions.sql
  - SS folder containing scripts
    - Applied to server’s database during provisioning
    - Scripts that add tables and stored procedures to track:
      - Configuration data changes and deletions (also tracked for CustomerConnect)
      - Posted tickets
      - Settled draft capture transactions
      - Device changes
Exercise 3: Provision the Server Database

Try it yourself!

In this exercise, you will provision the server’s database.

Perform Exercise 3 in the Offline Ticket Entry Exercise Handbook.
In a Multi-Site environment, use the NCR Counterpoint Management Console to select stores whose offline workstations will be managed by the Hub server.

Select Start > All Programs > NCR Counterpoint > Utilities > Management Console to display the NCR Counterpoint Management Console window.

If necessary, click the Connect button to connect to the Hub server.

You can connect to the Hub server from any Counterpoint server.

On the Server Connection dialog, enter the server name and CP Services port for the Hub server in the Service URI field.

Enter the Counterpoint User ID and Password for a Counterpoint user who is designated as a system administrator.

After connecting to the server, select the Hub database from the Object Explorer tree.

On the Summary tab, click the Manage Stores button to display the Choose Stores dialog.

This button is only enabled for Multi-Site installations.
Select Stores Managed by Hub Server (Multi-Site)  

Section 2: Deploying Offline Ticket Entry

Select the check box for each store for which the Hub server will manage one or more offline workstations.

Data and top-level Company files will be synchronized between the server and offline workstations for the stores you select.

Click **OK** to save your changes and close the **Choose Stores** dialog.

The stations assigned to each store appear under the store in the **Object Explorer** tree.

The black screen on a station’s icon means that a workstation associated with the station has not yet registered with the server.

When Counterpoint is installed on a workstation and it is registered with the server, the screen icon will appear in blue and the **Registered on** and **Last Contact** date/time values will appear, along with the **Machine name** for the workstation.

If you connect to a Remote server, you will see the store already selected to be managed by that server. This was done automatically when the Remote server registered with the Hub server and selected its workgroup.
Exercise 4: Select Stores Managed by Server

Try it yourself!

In this exercise, you will:

- Use the Management Console to connect to each server
- View the store that’s already managed by the remote server
- View the store’s workstations before they have registered with the remote server

Perform Exercise 4 in the Offline Ticket Entry Exercise Handbook.
## Section 3: Deploying Offline Workstations

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</table>
Install Prerequisites on Offline Workstations

Before Installing Prerequisites

- (WAN) Copy \CPSQLPrereqs folder from the Counterpoint Complete download to a directory that is accessible to all offline workstations
  - Avoids permission problems copying across servers
  - Avoids performance impact and/or low bandwidth problems
- On all workstations to be used in offline mode, use Add or Remove Programs to remove Microsoft SQL Server Native Client

Install Prerequisites

- Log in to workstation as Windows administrator, browse to the \CPSQLPrereqs directory, right-click CPSQLPrerequisites.exe, and select Run as Administrator
- Optional install of SSE 2008 R2 if MSSQL 2016/2012/2008 R2 is not already installed as default instance
- If not already present, automatically installs:
  - .NET Framework 3.5 SP1
  - .NET Framework 4.0
  - SQL Native Client
  - SQL Server Management Objects
  - SQLXML4
  - SQL Server 2008 Shared Management Objects
  - SQL Server 2008 System CLR Types
- Reboot workstation when finished if SSE or any components were installed
Exercise 5: Install Prerequisites on Offline Workstation

Try it yourself!

The workstation (Offline1) you are using in class is already in this condition:

- SQL Server Express 2008 R2 is installed
- Correct version of MSSQL Native Client is installed

In this exercise, you will install the Counterpoint Prerequisites, which will automatically (silently) install:

- .NET Framework 3.5 SP1
- .NET Framework 4.0
- SQL Native Client
- SQL Server Management Objects
- SQLXML4
- SQL Server 2008 Shared Management Objects
- SQL Server 2008 System CLR Types

Perform Exercise 5 in the [Offline Ticket Entry Exercise Handbook](#).
Install Counterpoint on Offline Workstations

Run **ClientSetup.exe (as administrator)** in server’s `\CPSQL.1` directory

- Execute from workstation while connected to server
- (WAN) Copy **ClientSetup.exe** file from Counterpoint server to a location that is accessible to all offline workstations

**ClientSetup.exe automatically does these things for offline workstations:**

- Prompts you to specify whether the workstation will be **Sometimes Offline** or **Always Offline**
- Creates and attaches a database named **CPSQL_1_Station** (if CP is installed in `\CPSQL.1`) on the offline workstation
- Runs **mssql.sql** against the **CPSQL_1_Station** database
- Creates SQL user named **CPPOS** with password of **CPStation8**
  - Assigns sys_admin server role to ‘master’ and ‘CPSQL_1_Station’ databases
  - Grants database access to ‘master’ and ‘CPSQL_1_Station’ databases
  - Assigns db_owner and public database roles to ‘master’ and ‘CPSQL_1_Station’ databases
- Creates `\CPSQL.1 - Station` top-level directory on the workstation
- Creates **Companies.ini** on the workstation to add connection string to **CPSQL_1_Station** database
- Adds Offline shortcuts named **NCR Counterpoint Offline POS** to the Program Group specified for Offline Installation icons and creates a desktop shortcut
- Copies **registration.ini** from the server to the workstation's `\Toplevel` folder (you'll need to manually copy registration.ini from the server if it later changes)
- Runs **RegisterNode.exe** on the workstation to register the offline workstation with its server
- Runs **FileSync** to pull the company's `\Configuration` directory from the server
- Optionally initializes the workstation’s offline database to obtain initial configuration data
Exercise 6: Install Counterpoint on Offline Workstation

Try it yourself!

In this exercise, you will run ClientSetup.exe on the workstation, which will:

- Install Counterpoint on a workstation for use when running in non-offline mode with its server
- Create the CPSQL_1_Station database on the workstation
- Create the SQL user CPPOS (password CPStation8) as the owner of the CPSQL_1_Station database
- Create the \CPSQL.1_Station top-level directory and copy the server’s top-level files into it
- Create the workstation’s connection string to the CPSQL_1_Station database in Companies.ini
- Create icons and shortcuts to run Counterpoint in offline mode
- Create folders under \CPSQL.1_Station for offline use
- Run the RegisterNode.exe function to register the workstation with its server

Perform Exercise 6 in the Offline Ticket Entry Exercise Handbook.
Section 3: Deploying Offline Workstations

Initializing the Offline Workstation Database

- Enables the synchronization of data between server and workstation registered with that server
- In POS Registration, select the Initialize database now check box to initialize when:
  - New workstation on existing offline network
  - Only has one workstation

You can also initialize in the NCR Counterpoint Management Console from a server or a workstation by clicking the Rebuild button.

Select a single workstation and click Rebuild to rebuild the database for the selected workstation.

Select a Store and click Rebuild to rebuild the databases for all offline workstations for that store at the same time.
What Happens During Initialization or Rebuild?

Site Server:

- Do a full extract from Server’s database into `Configuration_REMOTE1_CPSQL.1_EAST_<date_time>.xml`
- Compress `Configuration_REMOTE1_CPSQL.1_EAST_<date_time>.xml` and `\POS\*.` into `RebuildDb_REMOTE1_CPSQL.1_EAST_<date_time>.zip`.
- Put `RebuildDb_REMOTE1_CPSQL.1_EAST_<date_time>.zip` in `\Packages\Outbox` and create a message indicating that a package is ready

Offline Workstation:

- During “heartbeat” check, get message to pick up `RebuildDb_REMOTE1_CPSQL.1_EAST_<date_time>.zip` and place in `\Packages\Inbox` directory on workstation.
- Unzip the file into `\Packages\Processing` directory
- Extract any tickets/customers from `CPSQL.1_Station` database that haven’t been extracted since the last synchronization
- Back up existing `CPSQL.1_Station` database as `CPSQL.1_Station_<date/time>.zip` in `\Packages\Backups` directory (if there is room – 4 GB)
- Create temp database named `TEMP_RebuildPOS` in `\CPSQL.1_Station` directory
- Run the `BuildDatabase.sql` script and remaining SQL scripts from `\POS` folder against `TEMP_RebuildPOS` database
- Import the `Configuration_REMOTE1_CPSQL.1_East_<date/time>.xml` file into `TEMP_RebuildPOS` database
- Stop CPServices
- Directly copy from `CPSQL.1_Station` database to `TEMP_RebuildPOS` database:
  - `DB_CTL`
  - `RC*` tables messages
  - `RS*` tables content
- Detach and delete `CPSQL.1_Station` database
- Copy `TEMP_RebuildPOS` database to `\CPSQL.1_Station` and attach it
- Restart CPServices
- If no errors occur, moves files from `\Packages\Inbox` and `\Packages\Processing` to `\Packages\Processed`
Running Counterpoint in Offline Mode

To start NCR Counterpoint in offline mode:

- Select the NCR Counterpoint Offline POS shortcut from the Start menu
- Double-click the NCR Counterpoint Offline POS desktop shortcut
- From a command prompt, go to the \Bin subdirectory of your NCR Counterpoint directory and type the following command, where [TopLevel] is the local top-level directory on the offline workstation:

  \Counterpoint.exe /offline /sdir [TopLevel]

If workstation is running in non-offline mode and is disconnected from its server, an error message appears.

Click Restart in offline mode, and then click Yes on the confirmation prompt to restart Counterpoint in offline mode.
If CPServices is installed, when you start Counterpoint in offline mode:

- You will be unable to select a **Company** (*CPSQL_1_Station* is selected automatically).

- The **Offline** indicator appears at the bottom of the login screen.
Exercise 7: Initialize/Rebuild the Offline Database

Try it yourself!

In this exercise, you will use the NCR Counterpoint Management Console to rebuild (i.e., “initialize) the offline database for the workstation.

You will perform these activities:

- Start the Management Console on the Remote server and select Rebuild
- Review the package processing results in the Management Console on the workstation’s server
- Start Counterpoint in offline mode on the workstation and explore the menu selections

Perform Exercise 7 in the Offline Ticket Entry Exercise Handbook.
Section 4: Data Synchronization

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Packages Folder on Server and Workstations

Program Files (x86)\Radiant Systems\CounterPoint\CPSQL.1\Packages

- Created when Counterpoint is installed
- \Inbox and \Outbox folders created on all Counterpoint servers
- Other folders created only on Offline Ticket Entry servers and workstations
## Packages Folders

<table>
<thead>
<tr>
<th>Folder Name</th>
<th>Used For</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Backups</strong></td>
<td>On workstation, contains SQL backup of “old” database that’s produced during rebuild/initialize</td>
</tr>
<tr>
<td><strong>Errors</strong></td>
<td>Contains two XML files for each error during processing: one has the section of the original XML file with the problem records, and the other has details of the error message.</td>
</tr>
<tr>
<td><strong>Failed</strong></td>
<td>Contains original XML file that had error, with “_Failed” appended to filename.</td>
</tr>
<tr>
<td><strong>Inbox</strong></td>
<td>Holds incoming files waiting to be processed</td>
</tr>
<tr>
<td><strong>Outbox</strong></td>
<td>Contains outgoing files waiting to be retrieved or delivered by workstation. On Server, picked up by workstations. On Workstation, delivered to server</td>
</tr>
<tr>
<td><strong>Processed</strong></td>
<td>Contains .zip files after successful processing</td>
</tr>
<tr>
<td><strong>Processing</strong></td>
<td>Holds XML files during processing</td>
</tr>
<tr>
<td><strong>Schema</strong></td>
<td>Contains XSD files that interpret contents of XML files</td>
</tr>
<tr>
<td><strong>Sent</strong></td>
<td>Successfully sent .zip files are immediately archived to this folder</td>
</tr>
<tr>
<td><strong>Upgrade</strong></td>
<td>(Not currently used)</td>
</tr>
</tbody>
</table>
Synchronization Packages

Server to Workstation

- Files are compressed and .zip file(s) are placed in `\Packages\Outbox` on server
- At next 1-minute “heartbeat” contact with server, workstation retrieves all .zip files in server’s `\Packages\Outbox`
- Workstation processes all XML files in .zip files in order by date/time, one after the other
- Data is filtered by store: workstations, drawers, drawer sessions, stations, locations, prices, inventory
  - Workstation cannot sell or take returns on items not stocked at store’s default location
  - Validated returns can be performed against unposted and posted tickets in site server’s database, Hub database (MS) or local database if CPServices is accessible
- All customers are sent to all workstations (can change in `DataSyncConfig.xml` to filter by store)
- Data Conflicts: always overwrites data on station, even if station’s is more current

**Configuration_REMOTE1_CPSQL.1_EAST_<date/time>.xml**

Created by:

- CPServices every 15 minutes or when service restarts
  New or updated configuration data (items, customers, etc.)

- **Incremental Extract** in Management Console
  New or updated configuration data

- **Full Extract** in Management Console
  All configuration data

- **Rebuild** in Management Console
  Full replacement of offline database, including schema

**PostedTicketsREMOTE1_CPSQL.1_EAST_<date/time>.xml**

Created by:

- CPServices every 15 minutes or when service restarts
  Newly posted tickets & settled draft capture transactions if using CPGateway (to be deleted from offline database)
Workstation to Server

- Files are compressed and .zip file(s) are placed in \Packages\Outbox on workstation
- At next 1-minute “heartbeat” contact with server, all .zip files in \Packages\Outbox are sent to server
- Server processes all XML files in .zip files in order by date/time, one after the other
- Data Conflicts:
  - If server’s record is more current, incoming record from workstation will be skipped and a warning message is written to CPSvcs.log
  - If POS document already exists in history tables on server, it won't be imported again

  PS_TKT_HIST
  PS VOID_HIST
  PS_ORD_HIST
  PS_LWY_HIST

Tickets_EAST.1_<date/time>.xml

Created by:

- CPServices after completion of each ticket
  - New ticket: 1 per XML
  - Drawer session statistics
  - Customer changes
  - Station checksums
  - XML is zipped before sending
- CPServices every 15 minutes and when CPServices restarts
  - Any tickets or other changes since last extraction
  - Station checksums
- Extract Now in Services Status, on demand
  - Any tickets or other changes since last extraction
  - Station checksums
- Rebuild in Management Console, on demand
  - Any tickets or other changes since last extraction
  - Station checksums (followed by database replacement)
A **Transaction Set** comprises related records from multiple tables.

For example:
Customer # 1000 in AR_CUST
   AR_CUST_NOTE
   AR_SHIP_ADRS
   AR_SHIP_ADRS_NOTE

- If anything changes in a record, related records for all tables in the transaction set are sent
- Updates for all related records in a transaction set must succeed or none are updated
- For incremental extraction, we limit the number of records in the parent table of a Transaction Set to 1000 per package; additional package(s) are created if there are more than 1000 records
- Transaction sets are defined in **DataSyncConfig.xml**
- Potential data loss:

  "At 10:00 am, Corporate Office enters address change for customer #1000
  At 10:01 am, while offline, POS Clerk enters note for customer #1000"

  *The Corporate Office address change will be lost.*

- Potential error:

  "Data in extraction package #1 is dependent on data in package #3.
  Import of dependent data in package #1 will fail at workstation."

  To avoid, perform a **Full Extract** for each store/station when doing large, bulk changes of data
Customizing DataSyncConfig.xml

DataSyncConfig.xml (located in \Bin folder)

```xml
<Datagroup name="Configuration" validateSequence="1">
    <!-- Configuration data group (Site Server to POS) -->

    <!-- **** Accounts Receivable **** -->

    <!-- Customer Control -->
    <Table name="AR_CTL" />

    <!-- Customer Profile Code -->
    <Table name="AR_CUST_PROF_COD" />

    <!-- Finance Charge Code -->
    <Table name="AR_FCH_COD" />

    <!-- Ship Zone Code -->
    <Table name="AR_SHIP_ZONE_COD" />

    <!-- Statement Code -->
    <Table name="AR_STMT_COD" />

    <!-- Terms Code -->
    <Table name="AR_TERMS_COD" />

    <!-- Customer Items -->
    <Table name="USER_CUST_ITEMS" />

    <!-- Customer Category Transaction Set -->
    <Table name="AR_CATEG_COD" />

    <!-- Category Notes -->
    <Table name="AR_CATEG_NOTE" />

    <!-- Loyalty Program Transaction Set -->
    <Table name="AR_LOY_PGM" >
        <Table name="AR_LOY_PGM_EARN_RUL" />
        <Table name="AR_LOY_PGM_RDM_RUL" />
    </Table>

    <!-- Tax Code Transaction Set -->
    <Table name="AR_TAX_COD" >
        <Table name="AR_TAX_COD_AUTH" />
    </Table>

    <!-- Customer Transaction Set -->
    <Table name="AR_CUST" >
        <SpecialHandling>
            <Columns>
                <BulkData>NOTE</BulkData>
                <BulkData>NOTE_TXT</BulkData>
            </Columns>
        </SpecialHandling>
    </Table>

    <Table name="AR_CUST" filter="AR_CUST.STR_ID=@STR_ID" />

    <!-- Ship Addresses -->
    <Table name="AR_SHIP_ADRS" />
    <Table name="AR_SHIP_ADRS_NOTE" />
</Datagroup>
```

To include data from a custom table

"Child" tables in a transaction set must have foreign keys to "parent" table

To filter the data from a certain table

Uncomment the following line to allow filtering of customers by store

---

Customizing DataSyncConfig.xml

DataSyncConfig.xml (located in \Bin folder)
<Datagroup name="Tickets">
<Table name="AR_CUST" syncAdd="1" syncUpdate="1" syncDelete="1">
<SpecialHandling>
<Columns>
<Exclude>UNPSTD_BAL</Exclude>
<Exclude>BAL</Exclude>
<Exclude>ORD_BAL</Exclude>
<Exclude>NO_OF_ORDS</Exclude>
<Exclude>LWY_BAL</Exclude>
<Exclude>NO_OF_LWYS</Exclude>
<Exclude>LOY_PTS_BAL</Exclude>
<Exclude>TOT_LOY_PTS_EARND</Exclude>
<Exclude>TOT_LOY_PTS_RDM</Exclude>
<Exclude>TOT_LOY_PTS_ADJ</Exclude>
</Columns>
</SpecialHandling>
</Table>
<Table name="AR_CUST_NOTE">
<SpecialHandling>
<Columns>
<BulkData>NOTE</BulkData>
<BulkData>NOTE_TXT</BulkData>
</Columns>
</SpecialHandling>
</Table>
<Table name="AR_SHIP_ADRS" />
</Table>
<Table name="PS_DRW_SESSION" syncAdd="1" syncUpdate="1" syncDelete="0">
<ImportFilterSql parms="STR_ID,DRW_ID,DRW_SESSION_ID">
if exists( select top 1 1 from PS_DRW_SESSION_HIST where DRW_SESSION_ID=@DRW_SESSION_ID and DRW_ID=@DRW_ID and STR_ID=@STR_ID )
select cast(0 as bit)
else
select cast(1 as bit)
</ImportFilterSql>
<PostPersistSql onInsert="1" onUpdate="1" onDelete="0">
execute dbo.USP_RS_PROCESS_DRW_SESSION @STR_ID, @DRW_ID, @DRW_SESSION_ID
</PostPersistSql>
</Table>
</Datagroup>

To omit data from certain columns in a table.
Another reason to customize DataSyncConfig.xml: Timeout expired

**Problem:** During incremental extract on server, "timeout expired" error occurs

```
Error 2796 Extractor (0) ExtractAndSendData: SQL error: UPDATE <Table_Name> SET RS_STAT=@NewValue WHERE RS_STAT=@OldValue

Timeout expired. The timeout period elapsed prior to completion of the operation or the server is not responding.
```

**Cause:** Attempting to write a large number of records from a table into incremental extract file.

**Solution:** Increase the "chunking size" for the table in DataSyncConfig.xml.

If 1,000,000 records exist in the IM_INV table:

```
<!-- Inventory Transaction Set -->
<Table name="IM_INV" filter="IM_INV.LOC_ID=((SELECT PS_STR_CFG_PS.STK_LOC_ID FROM PS_STR_CFG_PS WHERE PS_STR_CFG_PS.STR_ID=@STR_ID))" chunkingSize="62500">
  <Table name="IM_INV_CELL"/>
</Table>
```

Chunking size = # of records in table ÷ 16

**Notes**
- No more than number of records set in chucking size are extracted at a time
- Any additional records will be extracted in next session, unless chunking size is met before getting to the additional records
- Affects only **Incremental** extracts, not **Full** extracts or **Rebuilds**
- Restart CP Services after making change
Exercise 8: Customizing DataSyncConfig.xml

Try it yourself!

In this exercise, you will customize DataSyncConfig.xml on the Remote server to:

- Avoid including users whose logins are disabled in Configuration packages sent to offline workstations
- Include data only for Active items in Configuration packages sent to offline workstations

Perform Exercise 8 in the Offline Ticket Entry Exercise Handbook.
The Role of RS_STAT

- The **RS_STAT** column is part of every record in every table in the Configuration data group.
- Value of **RS_STAT** controls whether a record needs to be extracted into a Configuration package.
- Used only with **Extract (Incremental)**, not with **Full Extract** or **Rebuild**.

<table>
<thead>
<tr>
<th>RS_STAT Value</th>
<th>What it means</th>
<th>What sets it to this value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No changes need to be extracted from this record</td>
<td>After extraction completes successfully, <strong>RS_STAT</strong> is changed from &quot;2&quot; to &quot;0&quot;</td>
</tr>
</tbody>
</table>
| 1             | Extract this record in next incremental extract | Trigger on table that fires when a record changes  
Configuration change coming from a workstation to the server |
| 2             | This record is being extracted now but extraction is not yet completed | During extraction, **RS_STAT** is changed from "1" to "2" |

**RS_STAT=0**

Extraction is completed

Change is made to record

**RS_STAT=2**  **RS_STAT=1**

Record is being extracted
Tuning Performance of Data Synchronization

- Update database indexes and statistics daily or weekly (using MS SQL Server)
- Shrink download size by filtering `DataSyncConfig.xml`
- Shrink download size by extracting more frequently
  - Edit `RS_CTL.EXTRACTION_FREQ_SECS`

  900 seconds = 15 minutes

- Stagger workstation download times
- Stop workstations from checking in during maintenance window on server
- Prevent workstations from all downloading at the same time and affecting server performance
- Control network bandwidth usage when configuration packages are consistently large
- Edit `RCPACKAGEDESTINATION.CONTACTSCHEDULE` in `CPSystem_CPSQL_1_Station` database on a workstation

```
<minute> <hour> <day-of-month> <month> <day-of-week>
0-59  0-23   1-31    1-12   0-6 (0=Sun)
```

CronTab string | Meaning
--- | ---
0 0 * * * | Every day at midnight
0 * * * * | Every hour, on the hour
0,12 * * * | 12am and 12pm
0,5,10,15,20,25,30,35,40,45,50,55 9-17 1-31 * | Every five minutes, from 9am to 5pm
* 0-4,6-23 * * * | Once a minute throughout the day, except for a "blackout" period from 5am-6am.
Purges Performed by CPServices

- Purging performed at Site Server and at each Offline workstation

Purged every 24 hours*, beginning 1 minute after CPServices starts

<table>
<thead>
<tr>
<th>Files located in</th>
<th>Age of purged files</th>
<th>Setting in CpSvcs.exe.Config</th>
</tr>
</thead>
<tbody>
<tr>
<td>\Packages\Processed</td>
<td>7 days or older</td>
<td>ProcessedPurgeDays</td>
</tr>
<tr>
<td>\Packages\Failed</td>
<td>30 days or older</td>
<td>FailedPurgeDays</td>
</tr>
<tr>
<td>\Packages\Backups</td>
<td>7 days or older</td>
<td>BackupsPurgeDays</td>
</tr>
</tbody>
</table>
| \Packages\Outbox     | Files successfully delivered to all destinations are moved to \Packages\Sent
                        | Files not successfully delivered to all destinations: 30 days or older | UndeliveredPurgeDays |
| \Packages\Sent       | 7 days or older              | DeliveredPurgeDays                  |
| \Packages\Errors     | 90 days or older             | ErrorsPurgeDays                     |
| Communications Detail (Workstation view in Management Console) | 60 days or older | DatabaseLogPurgeDays |

* Controlled by <Schedule> setting under <CronManagerConfig> in CpSvcs.exe.Config. Refer to Configuring CPServices purge day and time topic in the NCR Counterpoint online help for details.

<table>
<thead>
<tr>
<th>Log file name</th>
<th>Log4net settings in</th>
<th>Size, Number, &amp; Message Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>CpSvcs.log</td>
<td>CpSvcs.exe.Config</td>
<td>8 rolling backups, each up to 2 MB. Oldest deleted after maximum rolling backup is reached. Shows DEBUG, INFO, WARN, and ERROR messages.</td>
</tr>
<tr>
<td>ManagementConsole.log</td>
<td>ManagementConsole.exe.config</td>
<td></td>
</tr>
<tr>
<td>ProvisionDB.log</td>
<td>ProvisionDB.exe.config</td>
<td></td>
</tr>
<tr>
<td>RegisterNode.log</td>
<td>RegisterNode.exe.config</td>
<td></td>
</tr>
</tbody>
</table>
Potential purging issue:

**Problem:** Counterpoint runs slowly and can timeout/lock up when performing functions that rely on CPServices (zooms, validated returns, timecards).

**Cause:** Excessive number of records in **RCPackageInbound** and **RCPackageOutbound** tables that cause the CPSSystem database to become bloated.

**Solution:** Decrease number of retention days for each table in **CPSvs.exe.config**

```xml
<appSettings>
  <!-- Version of this config file schema, used at upgrade time to help the InstallHelper interpret the source schema when porting over custom settings to the new/latest config file. This value should be bumped up whenever -->
  <add key="configFileVersion" value="1" />
  <add key="ServerName" value="%SERVERNAME%" />
  <add key="PurgeSchedule" value="0 3 * * *" />
  <!-- Number of days to retain records in RCPackageInbound and RCPackageOutbound tables -->
  <add key="PurgeOverride_rcPackageInbound_RetentionDays" value="7" />
  <add key="PurgeOverride_rcPackageOutbound_RetentionDays" value="7" />
  <!-- Number of days to retain files in the Packages\Processed folder -->
  <add key="ProcessedPurgeDays" value="7" />
</appSettings>
```

**Notes**

- Records in these tables are used in **Management Console** to display the status of offline orFileSync packages.
- Default retention is 60 days. In a high-volume environment, set retention to 7 or fewer days
- Restart CPService after making change
- Next time purge controller runs, removes records that are older than the retention days setting
Service Status

- On offline workstation only

The Counterpoint Service Status icon appears in the Windows taskbar after CPServices is installed and the offline workstation is rebooted.

Select Start > All Programs > NCR Counterpoint > Utilities > CPServices Status on an offline workstation to force the icon to appear.

Right-click the icon to display the following options:
- Status
- Extract Now
- Configure Local Services
- Log Viewer
- Exit

During an offline database rebuild, the icon changes to and the connection status is Disconnected.

<table>
<thead>
<tr>
<th>Status</th>
<th>Status of connection to server and data synchronization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A red “X” appears on the Service Status icon if there’s a problem with any status.</td>
</tr>
<tr>
<td>Extract Now</td>
<td>Enabled only if data is waiting to be extracted or delivered to the server</td>
</tr>
<tr>
<td></td>
<td>Forces all new tickets and other changed data to be extracted immediately, and then delivers to server. Does not download any files prepared by server.</td>
</tr>
<tr>
<td>Configure Local Services</td>
<td>Opens Configure Local Services window to start/stop CPServices or to change CPServices options on workstation</td>
</tr>
<tr>
<td>View Log</td>
<td>Opens Log Viewer</td>
</tr>
<tr>
<td>Exit</td>
<td>Closes Service Status and removes Service Status icon from the taskbar</td>
</tr>
</tbody>
</table>
Viewing the Counterpoint Service Status

Right-click the **NCR Counterpoint Service Status** icon and select **Status** (or double-click the icon) to display the **CounterPoint Service Status** dialog.

If necessary, expand the **Connection Status** and **Data Status** information.

The **Connection Status** area shows the status of the workstation’s connection to the server.

The **Data Status** area shows the status of data synchronization with the server.

<table>
<thead>
<tr>
<th>Connection Status</th>
<th>Data Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Connection Time</td>
<td>Last Upload Time</td>
</tr>
<tr>
<td>Local Service/Status</td>
<td>Last Download Time</td>
</tr>
<tr>
<td>Remote Service/Status</td>
<td>Packages Queued</td>
</tr>
<tr>
<td>Current connection to server:</td>
<td>Indicates whether data is waiting to be processed:</td>
</tr>
<tr>
<td><strong>Connected</strong> (within last 2 minutes) or <strong>Disconnected</strong></td>
<td><strong>Synched</strong> (nothing waiting), <strong>Pending Extraction</strong> (tickets waiting to be extracted), or <strong>Pending Upload</strong> (all data extracted and packages waiting to be uploaded to server)</td>
</tr>
<tr>
<td>When last connected</td>
<td>When was a package last sent?</td>
</tr>
<tr>
<td>The URI of workstation and whether CPServices is responding</td>
<td>When was a package last received?</td>
</tr>
<tr>
<td>The URI of server and whether CPServices responding</td>
<td>How many packages are waiting to be sent?</td>
</tr>
<tr>
<td></td>
<td>How many tickets haven’t been extracted into packages yet?</td>
</tr>
</tbody>
</table>
Exercise 9: Running in Offline Mode and Synchronizing Data

Try it yourself!

In this exercise, you will start Counterpoint in offline mode to enter tickets and view the synchronization process as it occurs.

You will perform these activities:

- Log in to Counterpoint in offline mode
- Enter a ticket and add a new customer “on the fly”
- Use Service Status to view the status as the ticket is extracted and put into a Tickets package, and as the package is delivered to the server
- Look at the .zip files in the corresponding \Packages directories on the workstation and server
- Post the tickets on the server that were imported from the offline workstation and view synchronization as the PostedTickets package is pulled back and processed on the workstation

Perform Exercise 9 in the Offline Ticket Entry Exercise Handbook.
## Section 5: Managing Offline Ticket Entry

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NCR Counterpoint Management Console

- Installed with CPServices on servers
- Use to manage the Offline Ticket Entry workstations
  - Communications status of server and each Offline workstation
  - Communication detail and history for each package and message processed on a workstation
  - Checksum data for drawer sessions and tickets
  - Force data and/or file synchronization
- Connects to a Counterpoint Server

Starting the Management Console and Connecting to a Server

Select Start > All Programs > NCR Counterpoint > Utilities > Management Console.

Click the Connect button to connect to a server.

On the Server Connection dialog, enter the server name and CP Services port for the Hub server in the Service URI field.

Click the ellipsis button if you need help constructing the Service URI.

On the Counterpoint Login dialog, select a Company, and then enter the Counterpoint User ID and Password for a Counterpoint user who is designated as a system administrator.
Object Explorer

The Object Explorer serves as the primary method for navigating to specific servers, stores, and workstations that you want to manage.

The Object Explorer displays:

- Each server that is connected to the Management Console
- Each store that is managed by one of the servers
- Each workstation that is defined for one of the stores in Setup > Point of Sale > Stations

The icons that appear to the left of each workstation indicate its status:

- Indicates that the workstation is not registered
- Indicates that the workstation is registered and currently online
- Indicates that the workstation is registered and currently offline (i.e., it has not communicated with its server in the last 10 minutes)
Server View: Summary Tab

When a server is selected in the **Object Explorer**, the **Summary** tab shows:

- Server’s top-level Counterpoint directory
- Counterpoint version number
- URL for the server, including CP Services port
- URL of the parent server (for a Multi-Site configuration)
- Statistics for packages processed:
  - Total received
  - Successful
  - Errors
  - Other/unknown status

Statistics can be displayed for any date range and by KBs processed or package count.
Server View: Communication Status Tab

When a server is selected in the **Object Explorer**, the **Communication Status** tab shows:

- Each workstation registered with the server
- Each server registered with the server (e.g., Multi-Site Remote servers)
- Each server with which this server is registered (e.g., Multi-Site Hub server)
- Whether the workstation or server is online (🟢 is green) or offline (🔴 is red)
Company Database View: Summary Tab

When a company database is selected in the Object Explorer, the Summary tab shows:

- The company alias
- Server name
- Database name and version number
- Database state
Company Database View: Workstations Tab

When a company database is selected in the Object Explorer, the Workstations tab shows:

- Each workstation registered with the server
- Workgroup and Store.Station
- Server that is managing the workstations
- Offline workstation's Machine name, description, and whether the system is online (O/L) or Offline

Click Add Workstation to display the Workstation dialog, which allows you to register workstations for a Counterpoint company. This does not register the workstation for Offline Ticket Entry management by the server.

Select a workstation and click Remove/Unassign Workstation button to remove the workstation from the Counterpoint company. This does not unregister a workstation for Offline Ticket Entry management.
Store View: Summary Tab

When a store is selected in the Object Explorer, the Summary tab shows:

- Buttons to perform each type of extraction to send data to all offline workstations for store

<table>
<thead>
<tr>
<th>Extract (Incremental)</th>
<th>Extract only changes from server into a package and send to all offline workstations for the store</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Extract</td>
<td>Extract all data from server into a package and send to all offline workstations for store, or to workstation selected in Workstation View</td>
</tr>
<tr>
<td>Rebuild</td>
<td>Fully replace offline database for all store’s workstations, or for workstation selected in Workstation View</td>
</tr>
</tbody>
</table>
Store View: Checksums Tab

When a store is selected in the Object Explorer, the Checksums tab shows for each drawer session:

- # of tickets, including voids
- # of lines
- Total sales amount
- Checksum received from station (Station)
- Unposted tickets imported by server (Live)
- Posted tickets imported by server (Posted)

A Resend link appears for drawer sessions with discrepancies between Station and Live+Posted checksum values. Click the link to resend session data from the station.
Workstation View: Summary Tab

When a workstation is selected in the **Object Explorer**, the **Status** tab shows:

- Date and time that workstation registered with server
- Date and time of last connection to the server
- Workstation’s computer name when it was registered
- Buttons to force file sync and data sync “on demand”
Workstation View: Communication Detail Tab

When a workstation is selected in the Object Explorer, the Communication Detail tab shows:

- Packages sent from and received by the workstation between the selected Package Date range
- The Package Type (Data Sync, File Sync, Message, POS Operation) and Status of each package
- Filename of each package or message
- Data group of package

The Reprocess Package button is enabled for each package sent by the workstation to the server with an error status. Click this button to resend the package.
## Package Status

<table>
<thead>
<tr>
<th>Status</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivered</td>
<td>Outbound package has been delivered and is waiting to be processed</td>
</tr>
<tr>
<td>Delivery Error</td>
<td>Attempt to send outbound package has failed and could not be auto-corrected (data communication error)</td>
</tr>
<tr>
<td>Partially Received</td>
<td>Inbound package has been partially received. Additional attempts will be made to complete the transfer.</td>
</tr>
<tr>
<td>Pending Delivery</td>
<td>Outbound package is waiting to be sent to destination(s)</td>
</tr>
<tr>
<td>Pending File Retrieval</td>
<td>System has been successfully notified that a package is waiting to be sent or picked up, but file has not been sent/retrieved yet.</td>
</tr>
<tr>
<td>Processed</td>
<td>Package has been successfully received and processed</td>
</tr>
<tr>
<td>Processing Error</td>
<td>File was successfully delivered, but could not be processed</td>
</tr>
<tr>
<td></td>
<td>- Trigger (customization) errors</td>
</tr>
<tr>
<td></td>
<td>- Foreign key violations</td>
</tr>
<tr>
<td></td>
<td>- Package or import process causes the problem</td>
</tr>
<tr>
<td></td>
<td>Package is left in <code>Failed</code> directory. Correct problem and manually copy package back to <code>Inbox</code> directory.</td>
</tr>
<tr>
<td>Received</td>
<td>Inbound package has been received and is waiting to be processed</td>
</tr>
<tr>
<td>Retrieval Error</td>
<td>System has been successfully notified that an inbound package is ready to send or be picked up, but error has occurred during retrieval from other system (data communication error)</td>
</tr>
</tbody>
</table>
Management Console: Forcing Data Sync

<table>
<thead>
<tr>
<th>Extract (Incremental)</th>
</tr>
</thead>
</table>
| • Immediately builds XML Configuration package from server data that includes only what has changed since the last extraction (same kind of package that gets created on normal 15-minute schedule)  
| • Creates multiple Configuration packages if more than 1000 records in a Transaction Set parent record  
| • Sets up pick-up message for all workstations registered for stores managed by server, regardless of whether selected from Store View or Workstation View  
| • Resets schedule to produce next scheduled package 15 minutes later  

<table>
<thead>
<tr>
<th>Full Extract</th>
</tr>
</thead>
</table>
| • Immediately builds XML Configuration package from server data and includes all data in server’s database  
| • Full replacement of workstation data, but not of database  
| • Can be done for a single workstation (from Workstation View) or all workstations registered for a store (from Store View)  
| • Only done on demand; no standard schedule  
| • Use if doing large number of changes/additions to server’s database that could result in exceeding 1000-record limit for packages created by incremental extract  

<table>
<thead>
<tr>
<th>Rebuild</th>
</tr>
</thead>
</table>
| • Immediately builds a Configuration zip file that includes XML Configuration file of all server’s data  
| Scripts in POS subdirectory under Scripts  
| BuildDatabase.sql script in POS subdirectory  
| • Sets up pick-up message for  
| - A single workstation (select Rebuild from Workstation View or Initialize Now in workstation Registration window), or  
| - All workstations registered for a store (select Rebuild from Store View)  
| • Full replacement of offline database, after extracting any changes that haven’t been sent yet to server  
| • Use when initially setting up an offline database, updating to a new release of Counterpoint, deploying customizations to an offline workstation, or replacing a corrupt offline database  

14 Offline Ticket Entry for NCR Counterpoint
**Log Viewer**

- Installed with Counterpoint on servers
- Installed with Counterpoint on workstations if **Utilities** are installed
- Use to view logs in `C:\Program Files (x86)\Radiant Systems\CounterPoint\CPSQL.1\Logs`

**Starting the Log Viewer**

Select **Start > All Programs > NCR Counterpoint > Utilities > Log Viewer** on a server or workstation to view the logs for that system.

Without any filters set, entries from all logs appear.

Entries are automatically updated to the list as they are generated, until you click **Stop**.

Click a log entry to see the details of the message in the message panel.
Using Log Viewer Filters

<table>
<thead>
<tr>
<th>Type</th>
<th>Msg is the only choice that will result in log entries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity</td>
<td>Error, Info, Warning, Debug</td>
</tr>
<tr>
<td></td>
<td>Error severity entries always appear in red</td>
</tr>
<tr>
<td></td>
<td>Select &gt;=? to also show other messages with worse severity level (example below)</td>
</tr>
<tr>
<td>Module</td>
<td>Component of CPServices producing the entry</td>
</tr>
<tr>
<td>Thread</td>
<td>ID of thread</td>
</tr>
<tr>
<td>DateTime Ranges</td>
<td>“From” and “To” dates/times of messages</td>
</tr>
<tr>
<td>Sort</td>
<td>Ascending or Descending, based on date/time</td>
</tr>
<tr>
<td>Message Limit</td>
<td>Number of entries to display in Log Viewer window</td>
</tr>
<tr>
<td>Application</td>
<td>Application log from which you want to display entries</td>
</tr>
<tr>
<td>Service Name</td>
<td>&lt;not used&gt;</td>
</tr>
<tr>
<td>Content highlight</td>
<td>Enter text and click Set to highlight messages that contain that text. Click X to clear highlights.</td>
</tr>
</tbody>
</table>

### Example

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Type</th>
<th>Severity</th>
<th>Module</th>
<th>Thread</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-09-17 10:00:53.541564</td>
<td>Warn</td>
<td>Warning</td>
<td>LicensingSyncMan</td>
<td>3916</td>
<td>Error</td>
</tr>
</tbody>
</table>
| 2015-09-17 10:00:48.135945 | Warn | LicensingSyncMan | 3916 | 0 Caused by unable to retrieve the entry
| 2015-09-17 10:00:43.159945 | Warn | LicensingSyncMan | 3916 | 0 Caused by unable to retrieve the entry

Application log from which you want to display entries

Service Name <not used>
Customizations

Custom Columns, Triggers & Stored Procedures

- Schema changes to *standard* Counterpoint tables

To include custom columns, triggers, and stored procedures in an offline database:

- Columns, triggers, or stored procedures must be in tables that are already included in Configuration packages (see Appendix C)

- Changes must have been in the server’s tables when the server’s database was provisioned (*BuildDatabase.sql*)

- If changes are made after the server’s database was initially provisioned:
  1. Use **Start > All Programs > NCR Counterpoint > Utilities > Provision Database** to regenerate Site Server scripts and POS scripts (including *BuildDatabase.sql*).
  2. Use **Rebuild** in the **NCR Countepoint Management Console** to rebuild all workstation databases

To send data from custom columns back to the server:

- Column must be in table that is already included in Ticket packages (see Appendix D)
Stored Procedures for Ticket Data

1. Stored procedures that execute when tickets are held, hold/recalled, or completed offline (or online):

   USER BEFORE PS_TE_COMMIT_DOC (custom)
   USP_PS_TE_COMMIT_DOC (standard)
   USER AFTER PS_TE_COMMIT_DOC (custom)
   USER AFTER PS_TE_SAVE_DOC (custom)

2. Stored procedures that execute when offline tickets are imported and saved to server’s database:

   USP_RS_PROCESS_TKT (standard)

3. Stored procedures that are called by USP_RS_PROCESS_TKT on server:

   USER BEFORE RS_PROCESS_TKT (custom)
   USP_PS_TE_COMMIT_DOC (standard)
   USER AFTER RS_PROCESS_TKT (custom)

Note the difference in names between the stored procedures that that execute when tickets are completed (group A).

Stored procedures in group C can call the same stored procedures in group A that are executed while offline.
Stored Procedure USP_RS_PROCESS_TKT

- Called by CP Services as each ticket is imported and saved in server’s database
- Ensures that each ticket only updates data in server’s database once

What USP_RS_PROCESS_TKT does:

1. Checks value of IS_DOC_COMMITTED column in ticket.
   - If N, continues processing.
   - If Y, does nothing else with that ticket.

2. Executes USER_BEFORE_RS_PROCESS_TKT if it exists.

3. Executes USP_PS_TE_COMMIT_DOC.

4. Sets IS_DOC_COMMITTED to Y.

5. If document is a Sales ticket or open Order or Layaway:
   - Executes USP_PS_DOC_UPDATE_SERIAL_ACTIVITY
   - Executes USP_PS_DOC_UPDATE_STORE_CREDITS
   - Executes USP_PS_DOC_UPDATE_GIFT_CERTIFICATES

   This ensures that the server’s database is updated for these types of activities, since this data is not sent back by a workstation in the Tickets package.

6. Executes USER_AFTER_RS_PROCESS_TKT if it exists.
Custom Tables

- Schema Changes via CUSTOM Tables Added to Counterpoint

- Custom table must be in server’s database when it is provisioned (BuildDatabase.sql)

If data in table needs to synchronize between server and workstation:

- Table must include RS.UTC_DT column (date/time data type) and RS_STAT column (tinyint data type)

- Create a trigger on the table to set RS.UTC_DT and RS_STAT=1 when changes are sent

- Modify DataSyncConfig.xml (in \Bin directory) on server and each offline workstation
  - Add the custom table to Configuration data group to include the table’s data in Configuration packages (server → workstation)
  - Add the custom table to Ticket data group to include the table’s data in Tickets package (workstation → server)
  - Add the custom table to Posted Tickets data group to clear the data in the table after offline tickets are posted by server (server → workstation)

If changes are made after server’s database was initially provisioned:

1. Use Start > All Programs > NCR Counterpoint > Utilities > Provision Database to regenerate Site Server scripts and POS scripts (including BuildDatabase.sql).

2. Use Rebuild in the NCR Countepoint Management Console to rebuild all workstation databases.
Course Evaluation

Ranking
Please use the following rankings to complete this evaluation:
1 = Unacceptable, 2 = Did Not Meet My Needs, 3 = Meets My Needs, 4 = Exceeded My Expectations

Registration
1. It was easy to enroll in this course.
2. The workspace available was appropriate for the subject matter being taught.
3. The room was set up effectively for the curriculum – if PC’s were supplied, they were loaded with the relevant software.

Facilities
4. Manual content was appropriate to the subject being taught.
5. The format of the manual was easy to understand.

Materials
6. The course prerequisites were clearly stated & appropriate to the topic.
7. The practice activities complemented the course.
8. The time allotted for the course was adequate.
9. I was given an opportunity to contribute during discussions.
10. What were your expectations for attending this course?

Experience
11. Were your expectations met?  ☐ Yes  ☐ No
   If yes, how were they met?
   ____________________________________________________________
   If no, why not?
   ____________________________________________________________

Instructor
12. The instructor was prepared.
13. The instructor was knowledgeable about the course content.
14. The instructor encouraged questions from participants.
15. The instructor covered the course objectives.
16. What is your overall rating of this Instructor?

Comments
17. The best thing about this course was:
18. This course could be improved by:
19. Another course that I would like offered is:
20. I would attend another course offered by Retail Training?  ☐ Yes  ☐ No
   If yes, why?
   ____________________________________________________________
   If no, why not?
   ____________________________________________________________

Thank you for completing this evaluation!
Appendix A: Changing the CPServices Port

- Change after CPServices is installed on Server, but before Counterpoint (CPServices) is installed on offline workstations

- If changed after Counterpoint is installed on offline workstations, use `RegisterNode.exe` to reregister the workstations with the server

To change the port assigned to CPServices on a server:

1. On the server, select `Start > NCR Counterpoint > Utilities > Configure Local Services`.
2. Click the `Service` that corresponds to your company’s top-level directory.

3. Enter the `Local service port` you want CPServices to use and select the `Restart service?` check box.

4. Click `Save Changes` to restart CPServices and apply your change.
Appendix B: Unregistering an Offline Database

- To remove an offline workstation and its database from the Offline Ticket Entry network
- Unregistering a station deletes all package files (back up \Outbox first)

If the workstation can connect to the server:

1. On the workstation, if the Counterpoint Utilities were installed, select **Start > All Programs > NCR Counterpoint > Utilities > Station Registration**.

   If the Counterpoint Utilities were not installed, browse to the Counterpoint \Bin directory on the workstation, right-click **RegisterNode.exe**, and select **Run as administrator**.

   Since the workstation is already registered, you can choose to unregister the workstation.

2. Click the **Unregister** button to remove the offline workstation from the Offline Ticket Entry environment.

If the workstation is unable to connect to the server:

1. On the server, start the **NCR Counterpoint Management Console** and connect to the server.

2. Select the workstation you want to unregister from the **Object Explorer**.

3. On the **Summary** tab, click the **Unregister** button.
Appendix C: Tables in Configuration Packages

<table>
<thead>
<tr>
<th>AR_CATEG_COD</th>
<th>IM_KIT_COMP</th>
<th>PS_STA_FRM_GRP</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR_CATEG_NOTE</td>
<td>IM_LOC</td>
<td>PS_STR</td>
</tr>
<tr>
<td>AR_CTL</td>
<td>IM_MIX_MATCH_COD</td>
<td>PS_STR_CFG_PS</td>
</tr>
<tr>
<td>AR_CUST</td>
<td>IM_PLAN_PROMO_GRP</td>
<td>PS_STR_PAY_COD</td>
</tr>
<tr>
<td>AR_CUST_NOTE</td>
<td>IM_PLAN_PROMO_RUL</td>
<td>PS_TKT_PROF_COD</td>
</tr>
<tr>
<td>AR_CUST_PROF_COD</td>
<td>IM_PRC</td>
<td>PS_TOUCH_SCRN_COD</td>
</tr>
<tr>
<td>AR_FCH_COD</td>
<td>IM_PRC_GRP</td>
<td>PS_USR_DRW</td>
</tr>
<tr>
<td>AR_LOY_PGM</td>
<td>IM_PRC_RUL</td>
<td>SY_ACCT</td>
</tr>
<tr>
<td>AR_LOY_PGM_EARN_RUL</td>
<td>IM_PRC_RUL_BRK</td>
<td>SY_CALNDR</td>
</tr>
<tr>
<td>AR_LOY_PGM_RDM_RUL</td>
<td>IM_SER</td>
<td>SY_COMMIS_COD</td>
</tr>
<tr>
<td>AR_SHIP_ADRS</td>
<td>IM_SER_ACTIV</td>
<td>SY_COMP</td>
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<td>AR_SHIP_ADRS_NOTE</td>
<td>IM_SER_PROMPT</td>
<td>SY_CURRENCY_COD</td>
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<tr>
<td>AR_SHIP_ZONE_COD</td>
<td>IM_SUBCAT_COD</td>
<td>SY_CURRENCY_UNITS</td>
</tr>
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<td>AR_STMTNT_COD</td>
<td>IM_SUBCAT_NOTE</td>
<td>SY_CUSTOM_FRM</td>
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<td>AR_TAX_COD</td>
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<td>SY_CUSTOM_PROFILE</td>
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<td>AR_TAX_COD_AUTH</td>
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<td>SY_GFC</td>
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<tr>
<td>AR_TERMS_COD</td>
<td>IM_TAX_CATEG_COD</td>
<td>SY_GFC_ACTIV</td>
</tr>
<tr>
<td>IM_ACCT_COD</td>
<td>IM_UNIT_COD</td>
<td>SY_GFC_COD</td>
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<td>IM_ADJ_REAS_COD</td>
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<td>SY_KEY</td>
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<td>SY_MENU_COD</td>
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<td>PO_VEND_ITEM</td>
<td>SY_MOTD_NOTE</td>
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<td>IM_BARCOD_ID</td>
<td>PO_VEND_ITEM_NOTE</td>
<td>SY_PAY_COD</td>
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<td>PO_VEND_NOTE</td>
<td>SY_PS_SEC_COD</td>
</tr>
<tr>
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<td>PO_VEND_TERMS_COD</td>
<td>SY_SEC_COD</td>
</tr>
<tr>
<td>IM_CTL</td>
<td>PS_CTL</td>
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</tr>
<tr>
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<td>PS_DISC_COD</td>
<td>SY_STC</td>
</tr>
<tr>
<td>IM_GRID_DIM_2</td>
<td>PS_DRW</td>
<td>SY_STC_ACTIV</td>
</tr>
<tr>
<td>IM_GRID_DIM_3</td>
<td>PS_DRW_SESSION</td>
<td>SY_SVC_COD</td>
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<td>IM_INV</td>
<td>PS_DRW_SESSION_EVENT</td>
<td>SY_TAX_AUTH</td>
</tr>
<tr>
<td>IM_INV_CELL</td>
<td>PS_DRW_SESSION_EVENT_DETAIL</td>
<td>SY_TAX_AUTH_RUL</td>
</tr>
<tr>
<td>IM_ITEM</td>
<td>PS_FRM_GRP</td>
<td>SY_USR</td>
</tr>
<tr>
<td>IM_ITEM_NOTE</td>
<td>PS_FRM_GRP_FRM</td>
<td>SY_USR_PREF</td>
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<td>PS_REAS_COD</td>
<td>SY_WORKSTATION</td>
</tr>
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<td>IM_ITEM_PROMPT</td>
<td>PS_STA</td>
<td>SY_WRKGRP</td>
</tr>
<tr>
<td>IM_KIT_PAR</td>
<td>PS_STA_CFG_PS</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix D: Tables in Ticket Packages

<table>
<thead>
<tr>
<th>AR_CUST*</th>
<th>PS_DOC_LIN_PO</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR_CUST_NOTE</td>
<td>PS_DOC_LIN_PRICE</td>
</tr>
<tr>
<td>AR_SHIP_ADRS</td>
<td>PS_DOC_LIN_PROMPT</td>
</tr>
<tr>
<td>AR_SHIP_ADRS_NOTE</td>
<td>PS_DOC_LIN_SER</td>
</tr>
<tr>
<td>PS_DOC_AUDIT_LOG</td>
<td>PS_DOC_LIN_SER_EXT</td>
</tr>
<tr>
<td>PS_DOC_AUDIT_LOG_TOT</td>
<td>PS_DOC_LIN_SER_PROMPT</td>
</tr>
<tr>
<td>PS_DOC_CONTACT</td>
<td>PS_DOC_NOTE</td>
</tr>
<tr>
<td>PS_DOC_DISC</td>
<td>PS_DOC_PKG_TRK_NO</td>
</tr>
<tr>
<td>PS_DOC_GFC</td>
<td>PS_DOC_PMT</td>
</tr>
<tr>
<td>PS_DOC_HDR</td>
<td>PS_DOC_PMT APPLY</td>
</tr>
<tr>
<td>PS_DOC_HDR_DOC_STAT</td>
<td>PS_DOC_PMT_CHK</td>
</tr>
<tr>
<td>PS_DOC_HDR_EC</td>
<td>PS_DOC_PMT_CR_CARD</td>
</tr>
<tr>
<td>PS_DOC_HDR_EXT</td>
<td>PS_DOC_PMT_EXT</td>
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<tr>
<td>PS_DOC_HDR_HOLD_QUOT</td>
<td>PS_DOC_PMT_PROMPT</td>
</tr>
<tr>
<td>PS_DOC_HDR_LOY_PGM</td>
<td>PS_DOC_PMT_RCPT</td>
</tr>
<tr>
<td>PS_DOC_HDR_ORIG_DOC</td>
<td>PS_DOC_SVC</td>
</tr>
<tr>
<td>PS_DOC_HDR_PAY_IOA</td>
<td>PS_DOC_TAX</td>
</tr>
<tr>
<td>PS_DOC_HDR_PROF</td>
<td>PS_DRW_SESSION</td>
</tr>
<tr>
<td>PS_DOC_HDR_TOT</td>
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</tr>
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<td>PS_DOC_LIN</td>
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<tr>
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<td>PS_STA_CFG_PS</td>
</tr>
<tr>
<td>PS_DOC_LIN_CELL_EXT</td>
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<td>PS_DOC_LIN_LOY</td>
<td>SY_USR</td>
</tr>
</tbody>
</table>
Appendix E: Tables in Devices Packages

PS_DEV_ATTR
PS_DEV_CFG
PS_DEV_LD_EVENT_TYPE
PS_DEV_LD_MSG
PS_DEV_LD_MSG_SET
PS_DEV_PORT_TYP
PS_DEV_TMPLT
PS_DEV_TMPLT_CONFIG
PS_DEV_TMPLT_TYP
Appendix F: Offline Ticket Entry Glossary

Configuration Data
Data sent in XML format by a server to an offline database that is needed to ring up tickets when running offline. Data is filtered to offline workstation’s store and stocking location associated with the store.

Counterpoint Services Status
Application available in system tray on offline workstations that allows user to see if connection exists to server, if tickets are waiting for extraction, if packages are waiting for upload, and the last connection time and status. Also, allows for ticket packages to be built immediately and sent to server.

CPServices
Short for “Counterpoint Services”. A Counterpoint-supplied function that is installed and runs as a Windows service on both Counterpoint servers and offline workstations. Responsible for transferring synchronization packages between a server and its offline workstations.

Extraction
Process where tickets are copied from an offline workstation’s database and placed in an XML file for sending to the server, or where configuration data is copied from a server’s database and placed in an XML file for sending to offline workstations.

Full Extraction
Process where all configuration data is copied from a server’s database and placed in an XML file for sending to offline workstations.

Incremental Extraction
Process where only configuration data that has changed is copied from a server’s database and placed in an XML file for sending to offline workstations.

Initialize
Process performed for a new offline workstation’s database that indicates to begin a full rebuild of the offline database with the server that is managing the offline database.

Manage stores
Process performed in the Management Console where Counterpoint stores are assigned to a specific site server for management of the store’s offline workstations.

Management Console
A Counterpoint-supplied application that can be run on any computer and that can access a server via its IP address or resolvable hostname. Used to monitor and manage offline operations.

Package
ZIP file that contains XML file of ticket data and new customers extracted from an offline workstation’s database, or ZIP file containing XML file that contains configuration data or newly-posted tickets extracted from a server’s database.
Appendix F: Offline Ticket Entry Glossary

Provision
Process that runs at a site server where the Counterpoint database structure is read. Creates several SQL scripts that are subsequently used to construct a database on an offline workstation, and to apply schema changes to a server’s Counterpoint database, and to an offline workstation’s database.

Rebuild
Process where the offline database is fully reconstructed from SQL scripts created by the provision operation done on the server, and includes replacing the entire offline database.

Registration
Process performed on an offline workstation where the workstation identifies itself to the server that will be managing the office workstation. The registration operation offers the option to optionally initialize the workstation’s offline database.