

# ***Emerald***



## **Release Notes**

**Version 4.0**

**Emerald Management Suite  
IEA Software, Inc.**



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## Preface

Please read these release notes before installing Emerald 4.0. They are especially important for those with existing installations of previous versions of Emerald to understand changes and to insure a smooth upgrade.

## New Features Overview

### Web Client and Admin

There is no longer an Emerald Client as in Emerald 2.5. All interaction with Emerald 4.0 is accomplished via a web browser, including installation, upgrade, configuration, admin, and customer care. Most browsers with cookies and JavaScript enabled will work fine. For a list of supported browsers and version, please see the system requirements section.

### Billing

The billing component of Emerald has been updated significantly to address the needs and concerns of the growing service provider markets. The new billing engine of the Emerald Version 4.0 release offers the following new billing features.

<b><i>Enhanced Aging</i></b>	Emerald has been enhanced to accumulate more extensive and accurate aging information. It will now display true current balances, including accounting for debit and credit transactions that have occurred after the latest billing run. Emerald will now supply 0/30/60/90/120+ aging information as of the last statement date, including a count of the number of times each customer has been in each aging category.
<b><i>Statement Generation</i></b>	You now have the ability to generate statements as well as invoices. This will allow billing runs (generating invoices) to be run separately from the month-end statement generation run.
<b><i>Bill Preview</i></b>	This new invaluable feature lets you see what is going to happen before you actually create bills, process credit cards/ach and other batch processes. You can first preview what the batch results will look like, and if everything is acceptable, process the batch.
<b><i>Scheduled Bill Runs</i></b>	The new Emerald Scheduler component allows users to schedule billing runs, as well as other system activities, to automatically occur at specified times or time intervals throughout the day.
<b><i>Multiple Pay Periods</i></b>	Pay period billing configuration can now be done at the service level instead of the MBR level. This allows you to have multiple services under a single MBR that are billed at different times or frequencies (ie, one service billed monthly, and another billed quarterly).
<b><i>Flexible Tax Structure</i></b>	The Emerald 4.0 tax structure has been re-engineered to be more flexible to handle the more-complex state and federal tax schemes introduced recently in the ISP/ASP service markets. The calculation of tax is now down at the invoice total level (rather than per-item) to be more accurate for reporting as well.
<b><i>Service Type Defaults</i></b>	When a service is created, default values specific to that service type are used to set the Login, Limit, TimeLeft, Quantity (Pay Period), HomeDir, HomeDirSize, and SendBill fields. This greatly reduces the chance of error or incorrect configuration when creating complex services.
<b><i>Credit Card Support</i></b>	Credit Card information has now been expanded. This allows for more accurate AVS processing by including the tracking of the billing address and zip code of the cardholder separately from the MBR address information. One-time credit card payments can now be made from within the MBR payment area without having to create a credit card invoice. In addition, Customers can also make one-time credit card payments on their own using the Customer Maintenance web site.

<b><i>Prepayment Support</i></b>	Emerald 4.0 enhances the ability to have pre-paid accounts and time banking features. Emerald will now allow the configuration of expiration and tracking of these accounts.
<b><i>New Consolidation</i></b>	Within Emerald 4.0, the call summary and consolidation functions have been completely re-written. Typically you will let the scheduler run an incremental daily update that will summarize the calls of the previous day and create/update summary entries for that time period. This significantly reduces the stress on your database server when doing consolidation. Since the summary records are updated daily, you can use them to see call summary information for a customer without having to search the calls table.
<b><i>Dial-up Usage Billing</i></b>	Billing from RADIUS dial-up usage data can now be used, along with the traditional time usage, to create flexible billing models to meet your needs.

## System Logging

A major update to Emerald is in the area of logging. Many new logs have been added to better facilitate tracking actions, changes, and events that occur within the system

<b><i>General</i></b>	Generic information, errors and problems are logged, to allow for easy reporting or troubleshooting.
<b><i>Email</i></b>	All successful and failed Email messages created by Emerald are logged. This includes invoice, CC processed/declined receipts and payment receipts.
<b><i>Audit</i></b>	Track changes to Master Account and Services by operator.
<b><i>Syslog</i></b>	A central syslog server and repository allow for troubleshooting many systems from one interface.
<b><i>FTP Data Transfers</i></b>	A log of all FTP data transfers within the system (information supplied by EmerAuth).

## RadiusNT/RadiusX 4.0

Emerald is also packaged with RadiusNT/RadiusX 4 (same edition/platform). RadiusNT/RadiusX 4 is a major upgrade to the world class RADIUS server included with Emerald 2.5. Please see the RadiusNT/RadiusX 4 release notes for the full list of the RADIUS product enhancements. As an overview of the prominent features with respect to Emerald, RadiusNT/RadiusX 4 will provided enhanced Calls Online tracking and RADIUS attribute mapping.

## Reports

The Report Suite for Emerald 4.0 has been modified to provide a web-enabled reporting solution. Reports can be displayed from any web browser. Printing requires a web browser capable of running either Java or Active-X applets. If you have any custom reports for Emerald 2.5 they **will** have to be converted to work with Emerald 4.0, because of database changes. Please see the database changes section later in this document for more details on database changes.

The number of standard reports has been increased and the following new report types have been introduced:

<b><i>Revenue</i></b>	The fundamental database layout has been modified to allow for accurate revenue reports, based on service types, payment dates, groups, aging, and much more.
<b><i>Commission</i></b>	A commission report can be produced to show you activity and amounts for each of your sales people.

<b><i>Server History</i></b>	A usage collector has been added allowing you to look at interval snapshots of server usage, based on a specific server, group of servers, location, or all servers. This greatly enhanced the ability to do capacity planning, troubleshoot problems, etc. Since the summary data is much smaller than normal call detail data, you can maintain a much longer period of data as well.
<b><i>Sign Up Trend Data</i></b>	Emerald will now track online registration sign-up data and allow users to report on the data for trending information and analysis.
<b><i>Emerald Log Reports</i></b>	Emerald will provide a report interface to the new V4 system and Emerald logs.
<b><i>Operator Email Report</i></b>	Emerald will now provide a report that shows all correspondence emailed by Operator.
<b><i>Operator Incident Report</i></b>	Emerald will now provide a report that shows all incidences associated to individual Operators.
<b><i>Expired Credit Card</i></b>	A report which will list account credit cards which have past their expire dates.
<b><i>Payment/Deposit</i></b>	Emerald will now provide payment (deposit) reports that provide the option to report by specific date or date range.
<b><i>Expired Accounts</i></b>	A list and contact information for expired accounts in the system.
<b><i>Daily New Users</i></b>	A list of new users per day. This can be used to follow up with new users, send mailing, etc.

## Security

Emerald 4.0 builds on the group and object security that Emerald 2.5 used.

<b><i>Group</i></b>	You can allow or restrict a group of operators on a per-billing group basis. Each billing group can be kept separate from the other. Additionally you can define what level of access the operator will have on each billing-group, including viewing/editing, billing, and management.
<b><i>Features</i></b>	You can allow or restrict a group or operators to specific features, including reporting, on-line viewing, and billing.

## New Emerald Modules

Several new modules will now be packaged within Emerald 4.0. Some of these were available previously with Emerald 2.5, but were not officially included in the suite. The core documentation set now covers all modules listed below and they can be installed from a single package.

<b><i>Emerald Web Server</i></b>	A full feature web server is included to handle all aspects of data management. This includes user management, customer care, reporting (including calls online, log viewing, and TS Graph), and administrative database management. The web server fully supports the security model of Emerald and is ideal for allowing resellers or large businesses to manage their own customer base. In addition, the look and feel of the web server is adaptable to match your current intranet, including customizable colors, pictures and style.
<b><i>Customer Maintenance</i></b>	A web interface is included to allow users to manage their account, including modifying their outdated billing information, list a summary of their time on-line, view their current bill, and change their password. Professional Edition only.
<b><i>Emerald Scheduler</i></b>	A scheduler component is included to allow users to schedule Emerald (such as billing runs) and system activities (such as directory clean-ups or network data gathering) to occur at specified times or time intervals throughout the day.

<i>LDAP Service Sync</i>	A LDAP synchronization service is included, allowing you to synchronize a portion of (group) or your entire database with one or more LDAP servers. (Please note Emerald does not provide an LDAP server). Professional Edition only.
<i>RadiusNT/X 4.0</i>	A fully integrated and powerful RADIUS Authentication and Accounting server is included. Rather than trying to integrate a third-party solution, you can enjoy just having it “work” out of the box. RadiusNT edition is same as Emerald Edition.
<i>SysLog Service</i>	An integrated syslog service is included, allowing centralized logging. This allows for faster notification and response, as well as reporting on problems and errors that occur enterprise wide. Professional Edition only.

## New Database Support for Sybase

The database interface has changed from the DB-LIB interface (which was Microsoft SQL Server specific) to an ODBC interface to allow for multiple database support. This database interface change also includes significant performance increases (over 100% in some billing runs) over the performance of Emerald 2.5.

<i>Supported Systems</i>	Emerald 4.0 now fully supports Microsoft SQL Server 7.0 (or higher) and Sybase 11.0 (or higher).
<i>Included Systems</i>	An optional distribution includes the Microsoft Data Engine (MSDE) and can be used for small installations.
<i>Full Text Search</i>	If you have full text search enabled for your SQL Server 7.0/2000 installation, Emerald will enable FTS for several tables and areas. If you do not have FTS enabled when you install/upgrade, you can run the instindx.sql script after installing FTS to enable FTS support in Emerald. FTS is not supported under Sybase.

## Upgrading

### Things to check

Upgrading from Emerald 2.5 to Emerald 4.0 is straightforward. The process will create a new database for Emerald 4.0. The advantage of creating a new database is that you can test the upgrade without affecting your current system. Upgrading is just like create a new Emerald database. The only additional step is when you are creating the new database you need to select your old Emerald 2.5 database during the creation process. The upgrade procedure is fully covered in the Emerald Administrator’s documentation.

Emerald 4.0 only supports Microsoft SQL Server 7.0 (or higher) and Sybase 11.0 (or higher). If you are currently running SQL Server 6.5 for previous versions of Emerald, you will need to either upgrade to SQL Server 7.0/2000 or install a new SQL Server with 7.0/2000. You can upgrade your Emerald 2.5 installation to a 7.0/2000 server on another machine or on the same machine.

### Database and related functional changes

As a result in re-structuring many tables to support new features, there are several things to keep in mind before doing an upgrade. You should **always** do a test upgrade before converting your production system.

- ?? Operator Security: Security for V4 has changed significantly. You must double-check Operators and Operator Groups after the conversion. Although your operators are converted, the Operator Groups are not. All operators are put into the admin group during the conversion. You **must** move the operators into the tech or accounting default groups or create new operator groups based on the tech or accounting groups. *If you do not change your operators after the conversion, all operators will*

*have full access.* A default operator “admin” with password “pass1” will always be created with full permissions during the conversion to prevent being locked out of the system initially. You should change the password of the admin account immediately for security reasons.

- ?? Billing Groups: If you have a Group with ID 1, it will be re-numbered during the conversion. This is because GroupID 1 had special meaning in 4.0. The conversion script will translate all items assigned to GroupID 1 to the re-numbered group.
- ?? Sales Persons: The Sales Person option is now a forced pick list. During the conversion all unique items from your MasterAccounts table, SalesPerson field will be added to the SalesPersons lookup table. If you have a significant number of unique entries, you may incur performance issues while adding/editing MBRs, since your web browser will need to load the entire list in a drop down box.
- ?? Invoices: Many fields from the Invoices have been moved to different areas. The basic changes are:
  - Move Previous Balance from Invoice to Statement
  - Move StartDate, EndDate, and Quantity to Invoice Line Item
  - Add AccountID, AccountTypeID, ChargeTypeID, and PaidAmount to Invoice Line Item
  - Tax totals per line item and Invoice tax2 total removed
  - Add line item per invoice per tax type for the tax subtotal.

The result of these changes allow for services to have different pay cycles (although they do still have to be day aligned with the MBR). Additionally, you can now very accurately report on revenue types or track setup charges.

Voiding an invoice only creates a credit adjustment onto the account. Services billed on that invoice will only be moved back if their current billed thru date matches the end date of the invoice line item. The End Date of the invoice will no longer overlap the start date of the next created invoice. Rather the end date and billed thru fields will be one day less than it was in Emerald 2.5.

Since several key fields in the Invoices table have been moved, the conversion may incorrectly translate old invoices. However this will have no affect on the billing status of the user. It is highly recommended that before doing a production server upgrade, that you print/send any invoices. *It is not recommended to print/send invoices created with 2.5 after the conversion.* Since there is no longer a CC Autobill, if you have a customer’s CC Auto Bill set to no, they **will** be assumed cc auto bill after the conversion. Since invoices do not have a previous balance, during the invoice conversion, the amount of the invoice from 2.5 is adjusted by the previous balance amount of the invoice to give the 4.0 invoice amount. This way, the invoice amount only reflects the total amount of the line items, like a 4.0 invoice does.

Invoice Types are now tracked as a number, not a varchar. If you experience any problems with invoice types converted as Unknown or other, please contact our support group.

- ?? Invoice Item: Paid amount is now tracked at the invoice item level. When a payment is entered, the payment amount will be auto-applied to invoices in chronological order (oldest to newest). Service expiration is moved forward to the end date of the line item when the first amount is applied to that line item. The paid amount of the line item tracks how much has been paid against that specific line item.
- ?? Statements: After the conversion script has copied your invoice data, it will create a single statement for each customer with a previous balance of 0, and an ending balance matching the balance field from 2.5. It will then associate all invoices for that customer to that statement and mark the statement as sent. If you do not have full historical invoice information in your system, or your invoice information does not accurately reflect the current balance, the invoice totals will not match the statement amount. This will not cause any problems, as only the statement end amount is important.
- ?? Master Accounts: Many fields from the Master Account have been removed or moved to different areas. The basic changes are:
  - Move Billed Thru To Service
  - Remove Expiration and Extension from MBR

The result of these changes allows for services to have different pay cycles (although they do still have to be day aligned).

The billed thru day of a MBR will be adjusted one day back during the conversion. This is normal and will not cause any problems. The account will still be correctly billed starting on the day *following* the billed thru date on the next invoice.

- ?? Service Types: The rates definition and structures have changed significantly. You should double-check all of your rate definitions and use the preview option to verify the new rate definitions are giving the expected results.
- ?? Taxes: The taxes definition and structures have changed significantly. You should double-check all of your tax definitions and use the preview option to verify the new tax definitions are giving the expected results.
- ?? Credit Card Information: Credit Card Information is now stored in a separate table from the MBR Data. It also includes additional fields. During the conversion, the MBR information is copied into the CC information for those customers with Credit Card information. Credit Card Expiration is now stored as a date format in the database. During the conversion, any expiration formats that could not be converted will be listed in the Emerald log. You will need to manually fix those accounts. Only customers with their pay method set to Credit Card will have CC information copied.
- ?? Incidents: Incident States have been added. All incidents are converted using the default open/closed states.
- ?? Servers: Server Types have been added to the RADIUS servers. You should double-check that your servers are configured for the correct type.
- ?? RADIUS configuration: An expanded set of RADIUS attributes are included with the base database before the conversion. Although the conversion does add any additional attributes from your 2.5 database not in V4, you should double-check any attributes you have changed or use.