



# In-House Customer Relationship Management System

Build for internal use of Sales Management and Marketing needs

## Project Brief

One of the challenges we faced was how to integrate our online purchasing processor system (FastSpring) to our own databases, for:

- customer storage,
- software licensing,
- sales-dashboarding and other admin functions,
- integrated marketing.

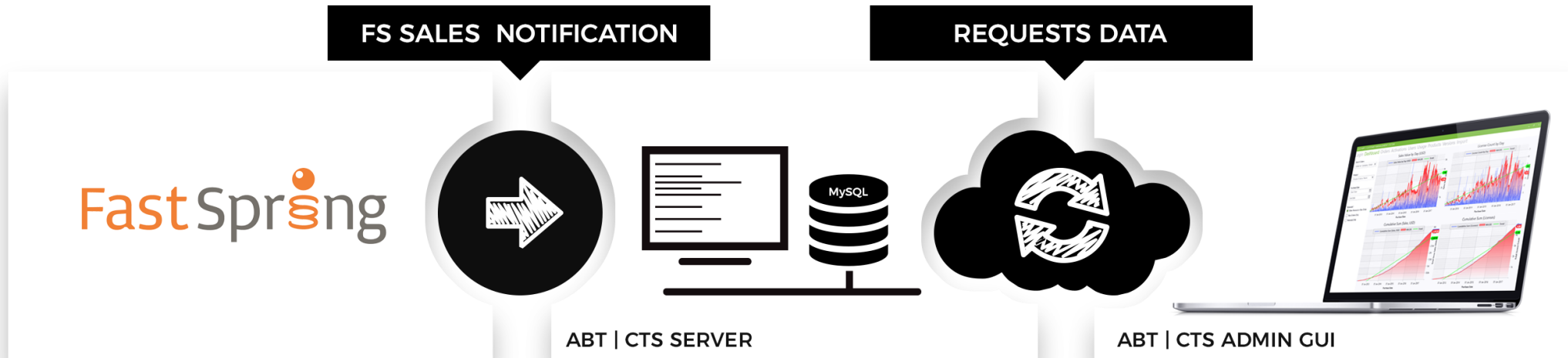
For this we have developed a bespoke Customer Relationship Management System (CRM), which is used internally by SciChart for the sale of SciChart.

## How it works

The CRM is an eCommerce integration with a custom licensing service and automated marketing functions boasting a 99.9% uptime. The server consumes FastSpring Sales notifications and automatically inserts Order, Customer, Purchaser, Quantity, Product-Code data directly into an MSSQL Server database in the cloud.

By mirroring the FastSpring order data in a MSSQL Database, we perform custom business functions on new order, as well as existing orders or customers.

CRM is a client server application. The client sits on a salesperson desktop and connect s to the server. From here it requests order data (all sent encrypted) and populates the dashboards and order blotters.



## Module 1 Sales Dashboard

### Top left:

Sales 'health' board in \$/day. Graphs the exact sales per day, incorporating a trend line as well as a 30-day moving average of sales data, thus giving an 'at a glance' of what the last 30 days sales yields in dollars per day.

### Top right:

Licenses count in licenses/day. Similarly graphs license sold in a day, builds trend line and a 30 day moving average of number of licenses sold per day over past 30 days.

### Bottom left:

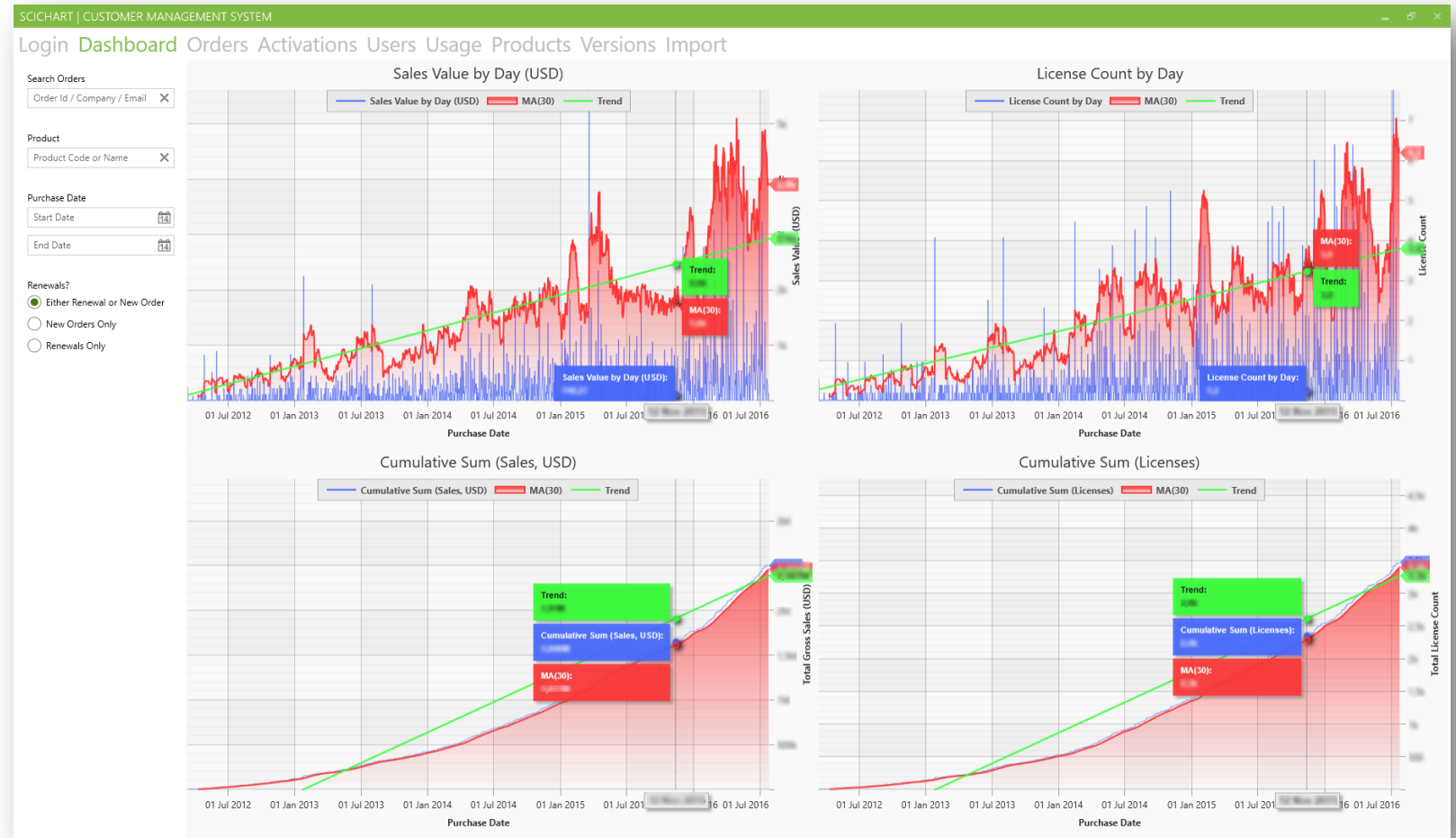
Cumulative sum of sales (total all sales) US Dollar.

### Bottom right:

Cumulative sum of licenses sold (total all licenses).

### Searchable dashboard:

New orders and renewals are all searchable by product, type, and date.



## Module 2 Orders Dashboard

### Order creation

FastSpring orders are automatically passed to the CRM following completion of sale.

### License and Support granted

Once orders are passed to the CRM, a custom license key is generated and sent by encrypted email. This limits the usage of software to a single developer and grants access to our support systems tied to the user.

### Manual amendments

Orders can be added and amended manually. Licensing certificates can be re-sent to customers as well as the sending of renewal notifications.

### E-mail templates

The CRM has various email templates for new customers, subscription renewals and allows automatic sending of license keys and getting-started information directly to the customer.



The screenshot displays the SciChart Customer Management System interface. A table of orders is visible in the background, with an 'Amend Order' dialog box overlaid on top. The dialog box contains fields for order information, customer information, and purchaser information.

ORDER ID	PURCHASED	PRODUCT	QTY	DEVELOPERS	TOTAL	CCY	SUPPORT EXPIRES	FIRST NAME	LAST NAME	EMAIL	COMPAN
ABT170	04-Aug-2017	SC-WPF-2D-PRO	1	0	764.15 USD		04-Aug-2018				
ABT170	04-Aug-2017	SC-WPF-SDK-PRO	1	1	1,297.74 EUR		04-Aug-2018				
ABT170	03-Aug-2017	SC-IOS-2D-PRO	1	1	509.15 USD		03-Aug-2018				
ABT170	02-Aug-2017	SC-WPF-2D-PRO	1	1	764.15 USD		02-Aug-2018				
ABT170	02-Aug-2017	SC-ANDROID-2D-PRO			296.65 USD		31-Oct-2017				

**Amend Order Dialog Box Fields:**

- ORDER INFO:** Order Id, Purchase Date (04/08/2017), Support Expiry (04/08/2018), Sub Total (764.150000), Currency (USD).
- CUSTOMER INFO:** First Name, Last Name, Email (josh@scichart.com), Company, Country (US). Includes a checked 'Allow Reminders?' checkbox.
- PURCHASER INFO:** Purchaser First Name, Purchaser Last Name, Purchaser Email (josh@scichart.com), Purchaser Company. Includes checked 'Has Purchaser?' and 'Allow Reminders?' checkboxes.

## Module 3 Feedback Board

SciChart WPF examples app has a smile/frown feedback feature that sends customer experience data to our system. Together with usage statistics such as amount of time spent on examples, which examples are popular and customer comments to build a better understanding of our customers usage.

### Other functions:

The CRM server sits in the cloud on an Azure server with 99.9% uptime. This is a C# server which uses SQL Server Express to store order data. Scheduled jobs run to perform the following tasks:

**Every 2 minutes:** check for notifications from FastSpring on completed sale, create license key, insert order and send keys to customer.

**Nightly:** Run the renewals workflow. This searches for expired customers subscriptions and issues a series of emails with direct links to the FastSpring store. This gives customers the opportunity to purchase a renewal. Upon payment, licenses are marked as updated and no more renewal reminders are sent. Emails are sent according to their time zones with an embedded unsubscribe option.

**Nightly:** customers who's source code subscriptions have expired are removed from GitHub repositories removing their source code access.

SCICHAART   CUSTOMER MANAGEMENT SYSTEM										
Login Dashboard Orders Activations Users Usage Products Versions Import										
EXAMPLE NAME	USERS	VISIT COUNT	SECONDS SPENT	VIEWED SOURCE	EXPORTED	NUM RATINGS	RATING	NUM EMAILS	NUM FEEDBACK	
50-Channel EEG	578	1245	3201786	168	47	1	1	0	1	
Add Geometry To a 3D Chart	147	255	216323	31	10	1	0	0	1	
Add Objects To a 3D Chart	1	1	25	0	0	0	0	0	0	
Add or Remove DataSeries In Code	353	669	5219005	138	24	0	0	0	0	
Aggregation Filters	2	2	244	0	0	0	0	0	0	
Annotations are Easy!	670	1897	12794253	284	30	1	1	0	1	
Band Series Chart	921	2076	9032296	306	48	2	0.5	0	2	
Bind Multiple Charts	453	958	1740659	170	28	0	0	0	0	
Bind SciChart to Data	459	988	4855081	264	54	1	0	0	1	
Box Plot	583	1156	2460363	121	19	1	1	0	1	
Bubble Chart	577	1107	12339429	111	14	1	1	1	1	
Candlestick and Lines	308	546	1020628	82	10	1	1	1	1	
Candlestick Chart	501	975	1297201	143	32	0	0	0	0	
Category vs Value Axis	147	250	1295750	38	2	0	0	0	0	
Central Value and Value	247	414	406876	30	6	0	0	0	0	
EXAMPLE NAME	USER ID	VISIT COUNT	SECONDS SPENT	VIEWED SOURCE	EXPORTED	FEEDBACKTYPE	EMAIL		FEEDBACK TEXT	
Spectrogram Demo Chart	e7d28a98-f	3	403	False	False	Smile	[REDACTED]		beautiful spectrogram: i could spent the rest of my l	
Discontinuous Axis Demo	e7d28a98-f	3	825	False	False	Smile	[REDACTED]		Awesome feature, i love it!!: The discontinuous axis t	
NonUniformHeatmap	e7d28a98-f	3	3150	False	False	Smile	[REDACTED]		Beautiful non uniform heatmap: Thank you very mu	
Annotations are Easy!	37fa825c-9	2	1065	True	True	Smile	[REDACTED]		Nice work!!! Appreciate immediately seeing the coc	
Mountain Chart	b312c8e2-f	1	1526	True	False	Smile	[REDACTED]		We use WPF, C# and MVVM in rich client PC scientif	
Line Chart	b0f6a2b3-2	3	102	False	False	Smile	[REDACTED]		Let's discuss,	
Oscilloscope Demo	b929c819-;	2	25	False	False	Smile	[REDACTED]		Manager of Software Engineering	
Uniform Impulse Series 3D	b929c819-;	2	38	False	False	Smile	[REDACTED]			
ECG Monitor Demo	b929c819-;	1	609	False	True	Smile	[REDACTED]			
									Not working on my end: The Example works but as :>	

## Technical specifications:

Software was all developed in-house to create the CRM client server application. This includes:

C# WPF User interface (the CRM client), which uses Unity Container, Reactive Extensions, Task Parallel Library, WPF, MVVM, SciChart WPF, RestSharp, Log4Net and SciChart WPF to create a reactive and responsive UI.

C# Server (The its server) which uses Unity Container, Task Parallel Library, Reactive Extensions, PetaPoco for SQL Database integration, Log4Net, Quartz scheduled jobs and Microsoft. Own for Restful API services.

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## Other functions:

CRM Server also has an http rest service for the following tasks:

**Activating a license**, according to [www.scichart.com/activating-scichart](http://www.scichart.com/activating-scichart). The Licensing Wizard is a client which sends license and machine data to the server for activating a license. The CRM server responds with an unlock code that activates SciChart on this machine.

### Checking licensing service up-time and status.

Serving information for the customer account page [www.scichart.com/profile](http://www.scichart.com/profile)

### CRM Server integrations with third party systems.

Integrating SciChart orders with [scichart.com](http://scichart.com) user accounts with Github (we grant access to our Github repositories for source code access).

Integrating SciChart orders and activations with ActiveCampaign marketing automation software for targeting email campaigns to customers vs. trial users vs. current/expired subscriptions.

## About SciChart

**SciChart is a cross-platform WPF, iOS, Android and Xamarin Scientific & Financial Charting Library.**

SciChart supports rendering of complex, interactive, real-time charts with many millions of data points for demanding scientific, medical and financial applications and embedded systems that require high performance, rich interaction and smooth updates.

### SciChart Ltd

16 Beaufort Court, Admirals Way,  
Docklands. E14 9XL. London.  
United Kingdom

**Web:** <https://www.scichart.com>  
**Contact us at:** [sales@scichart.com](mailto:sales@scichart.com)

