



Integrating Microsoft Dynamics GP and Microsoft Dynamics CRM

Discussion Paper and FAQ's

Integrating two Microsoft Products – it sounds easy enough.

The physical act of integration, pushing data from one system to another, is a straight forward and simple task. If this fact is true then why do many companies find that integration projects get bogged down, and end up over budget as go live deadlines are missed? As a result all stakeholders end up disappointed and frustrated.

Firstly, lets take a look at the two software applications discussed in this document:

Microsoft Dynamics CRM (CRM) is a specialty software that is designed for assisting with and managing the prospecting and selling activities of an organization. (There is much more to a CRM than that but let's start with this definition). CRM is a powerful development environment and is so easily customized that often the finished solution does not resemble the 'out of the box' CRM solution. CRM data is very flexible, and compared to an ERP is unstructured. Having the same account, customer or contact listed multiple times within a CRM is normal and often exactly what a business needs.

Microsoft Dynamics GP (GP) is a full ERP solution aimed at handling all the accounting, invoices, inventory management, manufacturing and other back office tasks of an organization (in other words the post sales delivery and administration activities). GP is an extremely configurable tool that can be set up in hundreds of different ways to ensure it matches the specific needs of a business. ERP's are rules based, with very structured data and business rules.

SmartConnect is one of the powerful tools for integrating these two products together, which remove much of the technical difficulty of such a project. SmartConnect also provides out of the box templates that tie GP and CRM together – so why do integration projects often end up problematic? The issue is rarely of a technical nature but more often than not revolves around the methodology used of the project.

This document will discuss some of the key components of any CRM and GP integration project, together with a discussion into the detail aspects of certain integration points.

Steps to a successful CRM and GP integration project – using SmartConnect.

1. Training

It is unusual to have training as the first step in a project implementation. I include training up front as it is critical to each and every other project step. Let me explain why - If you asked this question of a consultant “I need to push order data from CRM to another system, can we do that?” the answer would almost always be “yes, that should be no problem.”

Moving data from one spot to another is easy. If you asked the exact same question with a little more detail it may sound like this “I need to push order data from CRM to Dynamics GP and make sure that the customer exists and is unique, the customer is not on hold (if so trigger process holds), that the quantity ordered is available (and if not trigger the backorder process in both systems), that updates to that order in CRM in turn update GP unless of course any of the following have happened (transferred to invoice, line has been removed, voided, printed or fulfilled), and the appropriate tax, discounts and AA codes have been applied” – you are going to find the consultant is less confident.

Training is essential right from the demonstration stage of a sale process. From here you need to know how to scope the integration – and without training this is near impossible. This training can be self learning, reading, tutorials, online web training or classroom training – but it is essential if you want your projects to be successful and go in on time and on budget.

For many years the consulting world (both GP and CRM) have gotten by with little if any training. Both GP and CRM are easy to use; you can usually just pick it up! Most GP consultants can pick up any simple dex based add-on, load up the chunk file and have it worked out in less than an hour. These consultants are very good at what they do and could likely hold a 3 hour training class based upon this preparatory effort. This is a great thing about GP and for many years I was one of those consultants – much to my horror things have changed. Before embarking on an integration project, one needs a middle level understanding of the following topics: CRM (all components), CRM web services, CRM plug-in web service security, Dynamics GP, ODBC, eConnect and SmartConnect. SmartConnect takes away the need for you to be a guru in any of these fields, but you do have to understand each of these components.

So who should be trained in SmartConnect? This is a great question as the nature of integration projects is that they will rarely be completed by a single individual. An organization that is serious about delivering first class solutions would include the following roles in training. One individual may well cover a number of these positions.

- GP Technical Consultant
- GP Functional Consultant
- CRM Technical Consultant
- CRM Functional Consultant
- .net Developer (Often the tech consultants double in this role)
- Presales consultant (Having the presales person join the session will set you up to sell future complex integration solutions, and differentiate your team from your competitors).

What is the best training format to ensure I am prepared for everything that an integration project may throw at me?

Online: Given the time pressures on implementers we understand that you can not always make a classroom training event. The online training is a great way to attend short 2 hr online sessions, that cover the key topics.

When you take time doing self learning and tutorials in between online session – you get a much better learning experience.

Classroom: Classroom training provides a solid two day focus on all things regarding SmartConnect and integrations. The attendees are removed from the normal work distractions which greatly enhances the learning opportunity. Having direct interaction with the trainer makes sure they answer all your questions, and can focus on areas that are important to you. Day two of these sessions have many real examples and attendees are expected to complete a number of real life activities. We have found from experience that the implementers that take a classroom training session have fewer support incidents and deliver successful projects right away.

Follow this link to learn more about the [eOne training opportunities](#) and training agendas.

Scope/Specification

This is the most important phase of a project. I recently jumped in to help out partners with two struggling integration projects. The first question I asked was to be sent a copy of the integration specification. It was no surprise that I never received this vital document for either project. The main reason this document does not exist is because the consulting team have not taken part in step 1 above – training. This means that they ‘did not know what they did not know’ and that ‘they did not know which questions to ask.’

The scope document outlines key aspects of the integration:

1. The overall purpose of the project.
2. Measurable outcomes of project success.
3. Identify the deployment type of both GP (Lan, Citrix, TS) and CRM (hosted, Online, On Premise).
4. The purpose of each integration point.
5. List the field by field mapping requirements (essential).
6. How the integration is executed Real time, Manual, Scheduled?
7. What is the trigger point?
8. What keeps the two records related to each other (the key fields)?
9. If some data is missing, what should happen?
10. After an integration runs, who can update the data? Does there need to be something in place to block updates to certain data?
11. Are all the required master fields also kept up to date? (payment terms, shipping method etc). If so, is that a manual update or another integration point? What happens if this integration has not run first?
12. Integration direction: an integration can not be described as two way – that is two separate integrations.
13. Identify who needs to know about errors or failed integration records. When do they need to know? What happens if they are on annual leave?
14. Identify the implementing consultant by name. Who is responsible for the integrations?

The above list is not intended to be comprehensive, but should give you a good understanding of the many things that need to be considered. Please see the “50 Questions to Ask” document (below) for a more detailed discussion of the specific technical/functional things in GP and CRM that you may not have thought about.

I have often heard the following stated “all we want is vanilla integration, whatever the templates do will be fine.” I am waiting for that famous definition of vanilla. Even when you think you can get away with the templates as is,

or the integration is really simple, you still need to run through all the points on the scope checklist above, document them and have your clients sign off in agreement that this is their requirement. Without this Scope document how can you know if you did the project correctly? How do you know if the project is finished? How can you quote services if the tasks are not clearly identified?

All of our partners have great implementation methodologies, but often the integration tasks are the one thing left off the standard scope or spec documents (given CRM to GP integrations are relatively recent additions to their services). I believe there are two main reasons for detail integration specs not making standard scope documents.

1. This is often as a result of no one on the team being quite sure who is the 'owner'. Is the CRM team or the GP team? I have seen GP consultants bury their heads and delegate all responsibility to the CRM team – hoping that it all 'just works' – and then look surprised when the orders that land in GP are not orders but quotes, have no distributions, are not fulfilled, get updated from CRM which overrides the entries from the warehouse etc. This needs to be a team effort, but importantly, a single person needs to take overall responsibility if the integrations.
2. Lack of training. The team simply does not know the complexities involved or the questions to ask.

Below is a discussion of 50 things that need to be covered in the technical scope document:

50 Questions to think about during the scope

General

1. **How is my CRM deployed? Why did we choose that deployment method? What does this choice mean for my integration with GP?**

SmartConnect can handle each of the available deployment types. If the deployment is hosted off premise, the security and access will be one layer more difficult. If you choose CRM online you will be unable to push data real time from CRM to GP, but can do so based upon scheduled maps.

2. **What data should flow between CRM and GP and in turn between GP and CRM?**

This sounds like a silly question but it is critical. What a customer asks for is not necessarily what you should offer. I have a customer that integrates 30,000 orders from a web system into CRM, and then 30,000 orders from CRM to GP. It makes no sense to pass data around for no added value.

- a. Ask yourself: Does the data need to move systems, what does it achieve?
- b. Can I just use SmartList Builder to view CRM data inside GP?
- c. Can I build a screen in CRM that looks at GP data?
- d. Why are we doing order entry in CRM? Is that the right place for it?

Guide your customers – they come to you for advice so it is your job to give them direction. For example, CRM does not provide for quantity breaks in its pricing out of the box, so do not ignore this fact when you talk about pricing integration. Find a way to guide you customer away from the need for quantity breaks in CRM or source a third party solution. If you need to have a third party solution for this type of function you should factor in additional time for your integration services.

3. Am I using my GP data to drive the sales process to my existing customers?

You should be, as this is key to your integration. For example, have a SmartConnect map run once per month that sums up the total monthly sales, and then creates an activity in CRM for the CEO to call them and say thank you for your business. That's real Customer Relationship management.

4. Who will be the integration owner during the project, and who will own it after the project is complete?

It is essential to have elected these individuals, for a successful project.

5. Does each integration need to be real time, scheduled or manual?

This is a critical decision based on the business rules of the customer. As this is the first time many companies have had an integration they will often proudly state it MUST be real time. Dig deeper and you will find this may not be the case. Real time integrations will always add a little lag to the data entry, not much, but it will slow things a little. If you go scheduled – then how often? How many other maps will be scheduled? What times? Do I really need a scheduled map running all night every night? In general, the less moving parts in your integration the better.

6. Do I need a manual map as well as real time map?

The answer is usually yes. If for some reason the real time map fails (CRM goes down, GP goes down, a Server crashes, eConnect blows up, etc.) it is great to have a manually run map that can be used to update the data between the two systems.

Customers and Accounts

7. Which system is the master? Are they both the master?

Most customers want integration both ways between CRM and GP, this means they are both the master?

8. What is the Key field that will link these two entities together?

You can be creative here and choose any field you like, but most people chose the Customer Account Number in CRM, and the Customer ID in GP. This lets you enter the customer ID in CRM just as you would in GP, and it will use this number back in GP.

9. Is it OK if someone creates another customer in CRM with the same Account number?

There are many answers to this question, some people love having multiple CRM accounts tie back to one GP Customer, others think it is dreadful. SmartConnect can default the creation duplicate detections rules in CRM if this company decides it is a real bad thing.

10. Do we need to automate the creation of the next customer number in CRM?

This is something people expect, but you will note that neither GP nor CRM has this function natively. If you need to default the customer number based on a setup rule (first 2 characters of the name+ next 4 numbers etc), contact the eOne services team for help, write some java code that includes your rules or source one of the many add-ons for CRM that may do this for you.

11. What should happen if the customer in GP is on Hold?

This has a big impact on orders, but usually you would create them in CRM anyway.

12. What should I use as the GP customer class for customers I create in GP?

Great question, CRM does not have a field that is even similar to class. You can default a class for all customers but this is certainly not ideal. As part of the eOne templates, we have created a custom CRM entity called class and we update this from the GP class list. This ensures I can select a class in CRM and pass it to GP. (Important to get the right posting accounts, payment terms, credit limits, tax schedules etc.)

13. How do I keep the other key master files synchronized between GP and CRM?

It makes sense to have fields like shipping method, payment terms, currency, category, etc. the same in both systems. This can be done manually or with another SC map. (See the templates for examples). One of the tricks with the CRM web service is that you are unable to add items to pick lists in CRM. Strange, but true. This means that keeping the Shipping Method and GP and CRM is impossible as the Shipping Method in CRM is a pick list. In the eOne templates we have created a customer entity to replace the standard shipping method pick lists. You will find CRM consultants and developers avoid using pick lists whenever they can.

14. I see the currency has an exchange rate in CRM, how do I update that from GP?

This is a trick given that there are 15 ways to set up currencies in GP. You can just ignore the currency exchange rate, and just let SmartConnect grab the right rate from GP when it processes an order. If you allow the sales team to update this in CRM, you can pass it to GP on an order – but will need to some long discussions with controller on how they want to handle this.

15. Which Accounts become customers, all of them? Just certain ones?

Rarely do you want all your prospects in GP. You will need a restriction on the integration map to limit the integration to the types of accounts you choose.

16. Who can update the billing address?

Are there certain pieces of data that are not two way real-time? Can a sales person change the bill to address? Should accounts be able to change the ship to address?

17. In CRM you can have 100's of more addresses, should they all go across to GP?

Great question. In reverse, the addresses in GP have a contact name associated – do you want this to create a contact in CRM. All possible but you need to know the answer.

18. Do you want the aging buckets displaying in CRM? What other important customer information should be displayed in CRM?

Again this is critical to what a company expects from an integrated solution. Usually the current, 30,60,90+ balance is essential – but what about last payment date, last payment amount, last order date, total sales YTD?

19. Does this customer have eXtender fields against a customer in GP?

If not then they should! You will need to get the eXtender nodes from eOne to be able to populate these fields via SmartConnect.

20. What about other third party tools, for example Wennsoft?

Are there Wennsoft fields that need to be populate that relate to a customer?

21. Don't assume it is only customers that need to be integrated?

What about Vendors? What about employees? Why not?

22. Keeping salespeople in Synch should be easy.

You would think so, wouldn't you? Do you want every CRM user to be a salesperson in GP? The salesperson lookup in CRM gives me every user - how do I know who are the real salespeople?

Items and Pricing

23. Where is my master for items, pricing etc?

GP or CRM?

24. What about Kits, I use them in GP?

There is no Kit functionality in CRM – be aware of that in your scope exercise.

25. If I create an item in CRM, can I create it in GP?

Sure you can, but there is plenty to think about. Where do the tax schedules, default GL accounts, warehouse assignments, currency assignments, etc. come from?

26. Do you need to accommodate Extended Pricing, Omni Pricing or Contract Pricing?

CRM pricing is limited. Talk about this in your scope and ensure the pricing model in CRM is sufficient. Does Omni Price have eConnect nodes?

27. Are quantity breaks important?

Again CRM does not support quantity breaks – make sure this is not a requirement by the time you have finished your scope.

28. Do I need to see the quantity on hand in CRM? What other information is important about an item?

Most salespeople want this information. How do you display quantity by site in CRM, when it does not handle sites?

Orders/Quotes/Invoices

29. Will you be processing quotes in CRM – if so, do they need to be in GP?

Generally dissuade this. Why keep this information in more than one place? If so, does a CRM quote become a GP quote, or a GP order? When is the customer/prospect going to be credit checked?

30. When does an order move from CRM to GP? What is the trigger?

Can this be immediate? Is it when it is fulfilled in CRM? When it is transferred to an invoice?

31. What happens if the customer does not exist in GP?

This is the likely scenario. So as part of order integration you also need to create the customer and all the associated more addresses simultaneously. Fortunately, this is easy for SmartConnect and is part of the standard templates.

32. If the GP customer is on Hold – what happens?

Great question. Should the salesperson be able to process the order in CRM?

33. Are process holds and credit checks important?

They usually are.

34. What is the company process for quantity shortages?

You are going to need to know this. Does the order get backordered, is it rejected, how is the salesperson informed? You can start to see why I question the term 'vanilla' integration.

35. Do changes to the order in GP need to update CRM? What if the warehouse changes quantity, partial fulfills or deletes a whole line?

You will find the sales team, controller or warehouse have very passionate feelings on this topic. Where do you need the controls on an order? When is it too late to make a change to an order? If an order has been submitted in CRM – it is impossible to update it while it's in that state (the web service will reject the update).

36. Once the order has been sent across to GP, can the sales team make changes?

This is important, as prospects always change their minds. What if the order has already be changed in GP? What if it has not cleared the process hold? What if it has been invoiced?

37. Do you need to disable functionality in CRM so orders can not be updated?

If so, you will want to take a look at the eOne templates. Do you only disable the CRM screen after the order has been transferred to invoice? There are so many questions.

38. Do the sales team hit the button 'create invoice' in CRM? I thought this would happen in GP?

It usually does. You may want to disable this button in CRM, to avoid duplicate invoices in CRM.

39. What order number should I use? The CRM one or the GP one? Do they have to be the same?

This can be a question you spend hours discussing.

40. Do you need to take deposits on orders? Can CRM do that?

Not without customizing CRM. If you do, you can map the cash receipt in SmartConnect.

41. Add your own questions below.

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Scope/Specification Sign Off

This sounds simple enough, but ensure that the following people all read and sign off on the scope document:

1. CRM Lead Consultant/Project Manager
2. GP Lead Consultant/Project Manager
3. Customer Project manager
4. Sales Manager
5. Financial Controller
6. Database manager
7. Dev team (if dev components are required)

Install

Make sure you take a good read of the eOne [Quick Start Guide](#). Follow the steps as outlined and you will have no trouble with the install. Always make sure you download the latest code from the eOne website. While we do not release software too often, it makes sense to check for any updates since your last download.

If you are nervous about the install (eConnect or web services are the most likely scary points) you are always welcome to engage the eOne technical consulting team to complete the install on your behalf.

Integration Build

This is the easy bit, take your specification, your field by field mapping documents and build the integration. There should be limited discovery during this phase – it is simply building what has been decided. You can use the eOne templates as a starting point, or you can build the integrations from scratch.

There are many occasions when you will need CRM customizations/configurations to match the workflow you have specified. You will need to call on your CRM team for these activities which may include the creation of custom entities, adding of new attributes, building of workflows or writing Java scripts to control what is happening on screen for users. In fact the eOne templates have a number of CRM customizations included in them to provide what we believe is one definition of the ‘vanilla’ install. Strange that the vanilla template comes with customizations.

The main steps in the integration build process are:

1. Create the required real time data sources.
2. Define bulk or change tracked data sources. If you require ‘change tracked’ data sources from CRM then you need to download and install the change track customization package from the eOne website (This includes the required custom entities and workflows).
3. Map your individual fields. Start with a few fields and confirm the integration is working, add a few more fields and try again. Take this approach until you are very familiar with SmartConnect. Another trick is to try each map with just a few data records initially – this makes sure you have the map working correctly before you try and integrate 200,000 items from GP to CRM.

4. Document the map names, data sources used, etc. and document any functionality changes from the scope.
5. Have any changes signed off as change requests (even if there is no budget change – you want the document to be correct and approved).
6. Run a QA on each and every map.

Build Test Scripts

Take the time to build up a set of integration, click by click test scripts. This should be an easy flow on from your scope documentation. List the required data entry activities and the expected outcome. Build some scripts that you suspect will test the hard part, the areas that you think may cause concern down the track. Do not avoid the hard bits.

End User Training

Run training sessions for the end users. Step them through the normal business process in both ends of the application. Never just train the GP team on one day, and then the CRM team another day. Mix and Match. Have a CRM user key data into CRM, watch it land in GP and explain why it did what it did. Have the GP team update the data and watch it flow back into CRM.

It is essential to have some of the key management team as part of these sessions. They are able to explain why they have chosen these integration points, and what differences it will make to the business. Many times this will be the first time the organization has had an integration with CRM and ERP – it is a big change for users. Take the time to answer all their questions.

Simulate a normal day

Hold a client simulation session. Use the test scripts designed above and have real users step through the process. Make this formal and have the user record the results of each test – be it good or bad.

This is the point at which you get end user ownership of the system that has been built, the test scripts created above. (Only do this after you have run through the test scripts and confirmed that everything is working as planned).

Sign Off

This is another key sign off point for the project. Have the key project team members sign off on the successful simulation and that all tests have been run and were successful.

Deploy

Roll out the solution to the live environment for production. Make sure the data sources are updated, the real time triggers are registered and the correct company data bases have been checked per map.

For further information and product videos, please go to: www.eOnesolutions.net