



Microsoft Dynamics GP Hosting Guide

White Paper

Best practices for successfully hosting Microsoft Dynamics GP

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Introduction

Welcome to the Microsoft Dynamics GP Hosting Guide. This guide is intended to help new or existing Service Providers plan and build a Microsoft Dynamics GP hosted service by incorporating the concepts and issues you will need to consider when hosting Microsoft Dynamics GP.

Audience

This document is intended primarily for Independent Software Vendors (ISVs), Microsoft Value Added Resellers (VARs) and Hosting Partners who plan on offering a hosted version of Microsoft Dynamics GP.

While solution architects and system administrators are the main target, implementers might also find the content relevant.

Assumed knowledge

It is assumed that the individuals involved with the deployment of Microsoft Dynamics GP in a hosted environment have experience in setting up a data center and the required technologies.

- Microsoft Dynamics GP 10.0 and 2010
- Microsoft Windows Server 2008 (including remote desktop services and Active Directory)
- Microsoft SQL Server 2005 or 2008 (including Reporting Services and Analysis Services)
- Microsoft Internet Information Services (IIS)
- Microsoft Windows SharePoint Services 3.0, Microsoft Office SharePoint Server 2007, Microsoft SharePoint Foundation 2010 or Microsoft SharePoint Server 2010

Compatibility

These instructions apply to Microsoft Dynamics GP 10.0 and Microsoft Dynamics GP 2010. The information can be applied to both versions unless otherwise noted.

This document focuses solely on the hosting-centric technologies and know-how, and should not be used as a large-deployment or performance guide for on-premise deployments.

Overview: Hosting Microsoft Dynamics GP

Today's small and midsize organizations are increasingly looking for more flexible and cost-effective ways to run their businesses and newer, more efficient ways to deploy critical IT resources, all-the-while maintaining their competitive edge in the marketplace.

To address this challenge and embrace the opportunities today's business environment brings, many organizations are moving to adopt hosted enterprise resource planning (ERP) solutions as an alternative to traditional, on-premise systems. Hosted ERP solutions shift much of the burden of ongoing software management from the customer to the solution provider, which provides many benefits to the customer, including:

- **Minimal initial investment, predictable monthly costs:** Unlike conventional on-premises ERP solutions, a hosted ERP solution does not require a substantial upfront investment and typically includes the associated costs of hiring and maintaining a staff of experienced IT personnel. The monthly subscription-based licensing also helps businesses turn capital expenses into predictable monthly operating expenses.
- **Seamless Upgrades:** Under this delivery model, the provider can continuously add the latest features and upgrades, which means that users can be assured that they're actually using the latest technology, without the typical expenses or timelines associated with on-premise upgrades or customization.
- **Make Changes on Demand:** Hosted ERP solutions are easily scalable and flexible to meet changing business requirements. Adding or removing users can be done on demand and will simply change the monthly subscription fee. This flexibility is particularly beneficial for growing, seasonal, or cyclical businesses that need to quickly change their user base to meet their unique business requirements.
- **Reduced Dependence on Internal IT Resources:** Hosted ERP systems typically require significantly fewer technical resources to manage than onsite ERP solutions because the hosting provider manages the software, hardware, and network administration. This reduces the strain on the organization's IT department, allowing it to redeploy IT resources to focus on more strategic, value added initiatives.

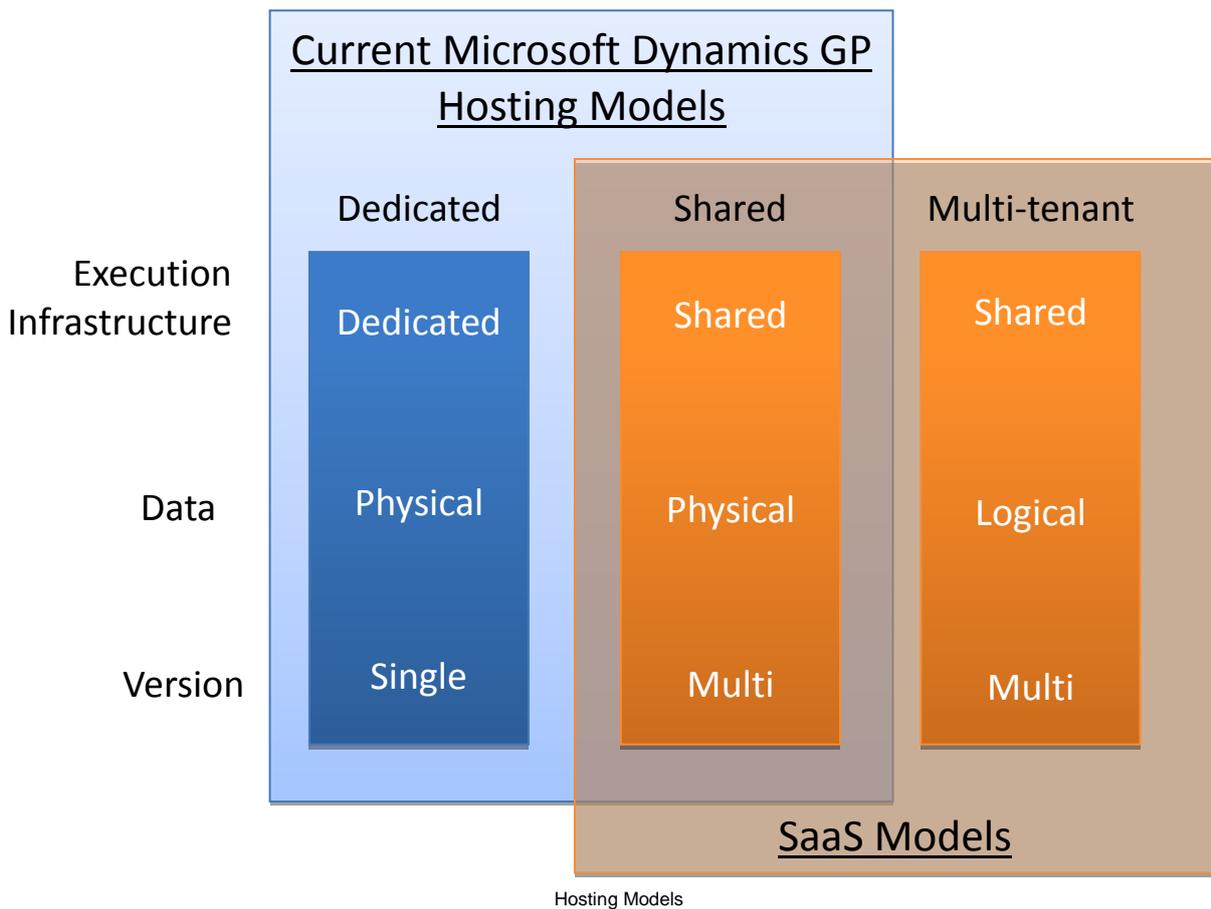
While the benefits are clear, it is important to understand and overcome the common concerns customers face when evaluating hosted ERP options. The key concerns most customers in this position share are performance, reliability, and security. Service Providers who can satisfy these key concerns and establish

economies of scale that drive down the resulting costs to their customers have the potential for considerable growth, profit, and high customer satisfaction.

This document provides an overview of the primary options for hosting Microsoft Dynamics GP, and addresses the primary technical steps required to configure an environment where Microsoft Dynamics GP can be delivered over the internet.

Hosting Models

Over time the available hosting models have evolved from pure dedicated hosting environments, to a shared model, and finally towards the full multi-tenancy of Software-as-a-service (SaaS) solutions. The image below helps to show where Microsoft Dynamics GP can be positioned compared to the different models.



By hosting Microsoft Dynamics GP as a service, it opens up the opportunity to use the same execution platform for multiple customers, even though the Dynamics GP is not considered to be a true multi-tenant application at the time of this publication. The use of Dynamics GP multi-instance capabilities and technologies for virtualization, such as Microsoft Hyper-V, has made the offering of Microsoft Dynamics GP in a SaaS-like model possible. By sharing parts of the infrastructure,

resources are used efficiently and cost effectively while enabling Service Providers to offer the performance, reliability, and security that customers demand.

Hosting Considerations

The considerations of a hosted Microsoft Dynamics GP model are in most cases very similar to that of an on-premise deployment. A key difference with the hosted model however is the introduction of the Service Provider role, which is the organization responsible for delivering the software to the end-users. Keep in mind that the *Service Provider* is not necessarily the *Solution Provider* (the company/person that provides consulting and implementation services).

Service Providers must focus on a number of considerations when offering Microsoft Dynamics GP in a hosted environment, including:

- **Availability:** The availability of the application is critical to the Service Provider being able to meet their service level agreements. To achieve the availability that customers expect, the platform needs to be architected with maximum redundancy in order to avoid any disruption of service to the end-users.
- **Security:** Since the hosted service is delivered over a WAN or the Internet, the information that is transferred between the data center and the end-user must be encrypted. Also, it is important that certificate based technologies (such as SSL) are in place to guarantee that the end-user is connecting to the intended infrastructure.
- **Scalability:** End users expect consistent performance regardless of increasing or decreasing usage and transaction volumes placed upon the system.
- **Economy of scale:** A very significant portion of the infrastructure for a Microsoft Dynamics GP hosted service can be shared among customers. For instance, network appliances, network attached storage, Active Directory and SQL servers can be shared. Also, enabling virtualization technologies (e.g. Microsoft Hyper-V) will further optimize resource utilization. Finally, exploiting the multiple-instance capabilities of Microsoft Dynamics GP provides additional resource sharing possibilities that help Service Providers achieve greater economies of scale, enabling greater cost savings for customers and higher profit potential for Service Providers.
- **Remote access technologies:** The primary underlying architecture for hosting Microsoft Dynamics GP is based on remote technologies (such as Remote Desktop Services or Citrix) that have been deployed successfully for many years now among existing Microsoft Dynamics GP customers. Indeed, it is not unusual for an on-premise Dynamics GP deployment to also rely on Remote Desktop Services to simplify workstation deployment or to allow users to work from several remote locations. It is important for a Service Provider to master this technology in order to deliver a Microsoft Dynamics GP hosted service successfully to their customers.

Service Providers Roles and Responsibilities

There are several models and methods for combining the various value added services that Service Providers and Solution Providers typically deliver to the end customers. Typically, a Microsoft Dynamics GP VAR will act as the Solution Provider by establishing a partnership with a Service Provider, while keeping control of the majority of the actual project implementation.



Example Responsibilities matrix for Solution and Service Providers

In many cases, the Service Provider would assume the following responsibilities

- **Provide the infrastructure:**
 - The hosted platform must include the necessary servers to accommodate the Microsoft Dynamics GP infrastructure. The customer may have the option of owning the servers, Operating Systems, integrating applications (such as Microsoft Office), Microsoft Dynamics GP, and database licensing. Alternatively, the Service Provider can provide those components for the customer. In addition, it provides the overall infrastructure to manage and secure the servers, operating systems and database.
- **Facilitate the Microsoft Dynamics GP platform setup:**
 - Under the guidance of the Dynamics VAR, the Service Provider may take care of the initial setup required for the Dynamics GP system in a hosted environment. This includes configuration of the necessary hardware, software, networking, and database components, and potentially additional software including IIS, eConnect and SharePoint for customers using Business Portal as an example.
- **Maintenance Guarantee:**
 - Regular system maintenance includes all of the activities required to keep Dynamics GP running without issue, like Microsoft Windows and SQL Server upgrades, and other infrastructure components such as network and server hardware maintenance.
 - The Service or Solution Provider must regularly execute Microsoft Dynamics GP maintenance updates, such as service packs and hot fixes, on-demand.

- **Support the platform:**
 - This includes new customer activation and provisioning, change control, problem management, and escalation procedures.
 - 24 x 7 Help Desk Support with a single point of contact to assist with any problems and issues that may arise with the hardware, software, network or potentially even Microsoft Dynamics GP.
- **Availability Guarantee:**
 - The Service Provider is responsible for delivering the required connectivity for the infrastructure, including sufficient Internet bandwidth (redundant and burstable).
 - Availability of system and platform must be guaranteed by the Service Provider. This means that critical services like SQL Server must be properly architected with instance clustering to avoid potential availability outages.
 - The Service Provider must also properly instrument system monitoring and related support services. For instance, in the event of a hardware failure, a standby support engineer must be promptly notified and available to respond to the issue.
- **Enforce Security Policy:**
 - This includes proper password policy across the infrastructure.
 - Access to data must be limited to the proper users from the right organizations.
 - Only properly authenticated users should be allowed access to the system.
- **Recovery Management:**
 - The Service Provider must implement a proper backup regimen for SQL Server and all other associated systems (e.g. at least a daily backup).
 - A solid disaster recovery plan must also be put in place, typically consisting of offsite backup storage and redundant hardware and network infrastructure.
- **Capacity Management:**
 - The Service Provider must be in a position to quickly respond to increasing demand on infrastructure capacity or growth. The customer expects that additional resources are always available in the data center to accommodate new needs as they arise.

Hosting Compliance

Considering the sensitive nature of the information managed in Microsoft Dynamics GP (accounting, financial, etc.), it is crucial that the hosting provider has the credentials necessary to earn the confidence of the end users that their data is secure. Below are some of the key methods Service Providers can use to gain customers' confidence.

SAS 70 Certification

SAS 70 (the Statement on Auditing Standards No. 70) defines the standards an auditor must employ in order to assess the contracted internal controls of a service

organization. Service organizations, such as hosted data centers, insurance claims processors, and credit processing companies, provide outsourcing services that affect the operation of the contracting enterprise. SAS 70 was developed by the American Institute of Certified Public Accountants (AICPA) as a simplification of a set of criteria for auditing standards originally defined in 1988.

Under SAS 70, auditor reports are classified as either Type I or Type II. In a Type I report, the auditor evaluates the efforts of a service organization to prevent accounting inconsistencies, errors, and misrepresentation, and the likelihood that those efforts will produce the desired future results. A Type II report includes the same information as that contained in a Type I report, in addition to the auditor actually testing the extent to which agreed upon controls have been operating effectively between the time they were implemented and the present. The minimum testing period for Type II compliance is six months.

Service Level Agreement

This is the contract between the Service Provider and the end user (partner) that guarantees the service. The main element at stake in this contract is the availability of the service. Unavailability is defined as occurring when a service cannot be accessed by any user due to an unplanned event. Downtime is defined as the period of time during which the service is unavailable. In determining the monthly downtime (DT), downtime as a result of maintenance overrun is included, even if this falls within the scheduled maintenance window.

Depending on the service, downtime is measured and determined by automated detection mechanisms (assuming these have been configured for the service), or are established on the basis of the registration of downtime following Incident reports.

The availability percentage (A) of services is determined and reported per month, over the preceding month, and is calculated according to the formula below.

$$A = \frac{\text{MMA} - \text{DT}}{\text{MMA}} * 100\%$$

The maximum monthly availability period (MMA) is equal to the number of hours per month.

An availability of at least 99.9% is the baseline for Service Providers who intend to support an ERP type of application such as Microsoft Dynamics GP (a downtime no greater than roughly 45 minutes per month).

Software + Services Incubation Centers

Members of the Microsoft Software + Services Incubation Center program are certified Microsoft partners who have passed the Hosting Competency exams and are actively hosting a variety of Microsoft platform technologies for ISVs, VARs, or customers. In addition, these Service Providers offer special workshops on Software + Services business strategy and technical architecture.

Licensing Options

Microsoft Service Providers and VARs can offer customers a choice of two different software licensing options based on their business needs and budget. The methods through which Microsoft Dynamics GP can be licensed include:

- **Business Ready Licensing (Perpetual licensing):** A customer licenses software from Microsoft outright through Business Ready Licensing (BRL), just as they would with any other traditional on-premises business application.
- **Service Provider License Agreement (Subscription licensing):** Microsoft partners can leverage the availability of Microsoft Dynamics GP under the Microsoft Service Provider License Agreement (SPLA) program to deliver subscription-based offerings to their customers, typically delivered via a Cloud based deployment. Rather than paying upfront for a perpetual license of the software, a customer pays for the software it needs on a month-to-month basis through a Microsoft Service Provider offering.

Note: Customers may combine deployment and licensing options.

What is SPLA?

The SPLA license provides 3rd party commercial use rights to Service Providers, who will be the holder of these Microsoft licenses and provide the software service. The end customers receiving the software service are not required to obtain their own Microsoft licenses. End customers receive the right to interact with functionalities of Microsoft software through the Service Provider's SPLA licenses. Service Providers cannot use FPP, Open, Select or EA licenses purchased in their name to provide software services.

The primary differences between the BRL and the SPLA license include:

	Business Ready License	Service Provider License Agreement
Payment	One-time upfront payment	Monthly charge
License type	Customer receives a perpetual license for the software	Customer pays for the usage of the license; but does not “own” it
Business Ready Enhancement Plan	Business Ready Enhancement is a yearly fee based on a percentage of the list price, which guarantees software upgrades and other enhancements.	Business Ready Enhancement is included
Users	<ul style="list-style-type: none"> • Provides usage for a maximum number of <u>concurrent</u> users • Lowering this number is not possible • If more concurrent users are needed, additional license rights must be acquired 	<ul style="list-style-type: none"> • Works on a <u>named user</u> basis • Charged according to the exact number of registered named users per month • The number can change per month, either higher or lower, which will result in a higher or lower price

For more information on Business Ready Licensing, please see:

<https://mbs.microsoft.com/partnersource/partneressentials/guides/msdpartnerguidebrlicensing.htm>

For more information on Service Provider License Agreements, please see:

<https://mbs.microsoft.com/partnersource/marketing/marketingcollateral/messagingframeworks/softwareplusservices.htm>

Note: In order to access the above sites you must have access to PartnerSource.

For more information about subscription licensing options for other Microsoft products (Windows Server, SQL Server, etc.), download the Microsoft Licensing Service Provider Use Rights document (SPUR):

<http://www.microsoftvolumelicensing.com/userights/Downloader.aspx?DocumentId=3050>

Planning the Microsoft Dynamics GP Hosted Service

When planning your Microsoft Dynamics GP hosted service, there are a number of service design items that you will need to consider. In particular, you will need to determine the Dynamics GP components you will offer your customers as well as the hosting model that will be used to deliver the components. This section will provide information on the supported hosting models, the components that make up the Dynamics GP solution, as well as other common service design items.

Hosting Models

There are two base hosting model approaches when deploying Microsoft Dynamics GP as a hosted service. There are a number of variations that can be made however, and in most cases the service offering will be a combination of these two models as a result of some components only being available in the dedicated model. Review the information on these two models and the component availability matrix to determine the approach you will take.

Dedicated

This model is the basic hosted offering for Microsoft Dynamics GP, with each customer having their own dedicated Windows Server(s) for their own organization's use. The implementation of this model can vary between physical hardware per customer or virtualized servers on shared physical hardware. In most cases, unless you have a large customer requesting their own hardware, you would want to use virtualization technology like Windows Server 2008 Hyper-V to create a dedicated Windows Server environment per customer. Typically, the application server (Remote Desktop Service Server and Web Server) components will benefit the most from server virtualization. It is usually not recommended to use virtualization for the database server components, but instead use the multiple instance capabilities of Microsoft SQL Server to build a dedicated SQL Server instance per customer on a shared Windows Server.

This level supports customers in much the same fashion as an on-premise deployment, offering the same level of customization and configuration. Scale in this model is achieved through virtualization on standardized hardware and software environments and shared IT resources.

Advantages

- All of the Microsoft Dynamics GP products were originally designed for a dedicated environment, therefore the existing product manuals are written assuming that the product is installed on dedicated servers. Microsoft Dynamics GP has a tremendous amount of experience deploying solutions in this environment.
- The physical separation in dedicated environments is often considered more secure than a multi-tenant shared environment.
- There isn't a threat of one customer affecting another customer's performance or stability on the server.

- All solution components (including ISV solutions) are available in this environment.

Disadvantages

- Additional administration and licensing costs as a result of dedicated server environments.
- Scalability is diminished as a result of minimum resource overhead per virtualized environments.

The following issues need to be given consideration when provisioning customers in this model:

- The system requirements for the individual customer will need to be calculated and resources assigned to the environments based on this calculation. (i.e. Number and size of servers - memory, CPU, Etc.).
- The operating system, database server, and application software will need to be installed on the dedicated servers during customer provisioning.

Shared

The shared model is designed so that you can share a single Windows Server across multiple customers. At the current time this is done using multiple instances of the application components running on a shared server. Using multiple instances allows the application to support many, if not all, of the customization and configuration capabilities of a dedicated or on-premise deployment. As a result you are able to provision multiple customers in a single scalable environment, while still offering the full capabilities of the application.

Advantages

- Realized scale as multiple customers are provisioned on a shared server environment.
- Still maintain some application separation between customers via multiple instances.
- Able to manage the risk of one customer affecting another customer's performance or stability.

Disadvantages

- Not all Microsoft Dynamics GP components are available on a shared Windows Server environment (some will require a dedicated model).
- There are manual steps involved in setting up and managing multiple instances for some components.
- Additional diligence is required by the Service Provider's administration staff to maintain a secure environment.
- There is a small risk of one customer affecting another customer's performance or stability in the shared environment.

The following issues need to be given consideration when implementing customers in this model:

- The number of customers that can be provisioned on a shared environment will need to be managed. You need to take into account anticipated customer growth as well.
- From time to time, customers may need to be moved from one environment to another as capacity needs change.

Hosting Model Component Availability Matrix

The matrix below shows the availability of the Microsoft Dynamics GP components for each of the previously described hosting models.

Component	Dedicated environment	Shared environment
Dynamics GP databases	X	X ¹
Dynamics GP client	X	X
Web Services	X	X ²
eConnect	X	
Workflow	X	
Business Portal	X	
SRS Reports	X	X ³
MOSS wizard	X	X ⁴
Integration Manager	X	
Analysis Cubes	X	X ⁵
Management Reporter	X	X ⁶
FRx	X	X
ISV Solutions	X	X ⁷

¹ Must use a Microsoft SQL Server instance per customer organization.

² Manual steps required in order to configure multiple instances.

³ Single instance can deploy reports for multiple customers.

⁴ Single instance can deploy reports for multiple customers.

⁵ Single instance can deploy reports for multiple customers.

⁶ Manual steps required in order to configure multiple instances.

⁷ Verify with the ISV solution. The level supported will depend on the type of solution; a general rule of thumb is that it would follow the Dynamics GP technology it is built on.

Microsoft Dynamics GP Components

Microsoft Dynamics GP is a comprehensive business management solution made up of a number of different components. There are two base components that are deployed in all cases, with the remainder being optionally deployed based on the customer's business needs.

- **Microsoft Dynamics GP Databases** (required) – A required component in all deployments as it contains the storage for the customer's business data. The customer's system and company databases will be deployed to a dedicated SQL Server instance (required because of the hard-coded DYNAMICS system database of Microsoft Dynamics GP).
- **Microsoft Dynamics GP Client** (required) – A required component in all deployments that contains the core application functionality. It is a windows application that will be deployed to a dedicated or shared Windows Server with Remote Desktop Services.
- **Web Services** - An optional component used to integrate with the Dynamics GP application. It is deployed to a web server (Dynamics GP 10) or application server (Dynamics GP 2010) and will require an additional security data store that can be deployed to the customer's SQL Server instance.
- **eConnect** - An optional component used to integrate with the Dynamics GP application. It is automatically deployed with the Web Services installation and may also be deployed separately if required by other applications, such as Integration Manager. It is deployed to the same machine as the consuming application.
- **Workflow** – An optional component used to create approval and action step workflows for specific tasks within Dynamics GP. It is deployed to a web server with Windows SharePoint Services 3.0, Microsoft Office SharePoint Server 2007, Microsoft SharePoint Foundation 2010, or Microsoft SharePoint Server 2010. It has a dependency on the Web Services component.
- **Business Portal** – An optional component that provides a web based employee portal for performing certain business tasks and viewing business data and metrics. It is deployed to a web server with Windows SharePoint Services 3.0, Microsoft Office SharePoint Server 2007, Microsoft SharePoint Foundation 2010, or Microsoft SharePoint Server 2010. All but the Windows SharePoint Services 3.0 version have a dependency on the Web Services component.
- **SRS Reports Wizard** – An optional component for deploying the Dynamics GP SQL Server Reporting Services reports. It is deployed to an administrator's machine and run to deploy the reports to a customer specific report server or SharePoint reports library. This requires SQL Reporting Services to be deployed to the customer's SQL Server instance and a report server or SharePoint reports library created for the customer.

- **MOSS Wizard** – An optional component for deploying the Dynamics GP Excel reports and Office Data Connections to SharePoint libraries. It is deployed to an administrator's machine and run to deploy the reports to a customer specific data connection and/or reports library. A single installation can deploy reports for all customers. You may also deploy the Excel Reports and Office Data Connections to a network share using the Dynamics GP (Client) component.
- **Integration Manager** - An optional component used to import data into Dynamics GP. It is deployed to a dedicated or shared Windows Server with Remote Desktop Services. Depending on the features deployed, it may require the eConnect and/or Dynamics GP (Client) component.
- **Analysis Cubes** - An optional component for deploying the Dynamics GP data warehouses and analysis cubes. It is deployed to an administrator's machine and run to deploy the warehouse databases and analysis cubes to the customer's SQL Analysis Server. Requires SQL Analysis Services to be deployed to the customer's SQL Server instance.
- **Management Reporter** – An optional component for creating and viewing financial reports. It has components that are deployed to a dedicated or shared web server, database server and the Remote Desktop (RD) Servers.
- **FRx** – An optional component for creating and viewing financial reports. It is deployed to a dedicated or shared Windows Server with Remote Desktop Services.
- **ISV Solutions** – There are a large number of ISV built solutions that extend the functionality of Dynamics GP. These solutions may be Windows based applications, web based applications or services. It is recommended that you use a test environment to certify these for the target hosting model before introducing them into any shared environment.

Infrastructure Considerations

When planning and building the infrastructure for a hosted Microsoft Dynamics GP service, there are a number of considerations to make to enable the desired efficiencies while also satisfying the customer's requirements and concerns.

Remote access technologies

Remote access technologies permit ordinary Windows applications to be run on a suitable Windows server, and provide supported clients access to those applications from remote locations. In the context of Microsoft Dynamics GP, the client is installed on the remote server (just like they would be on a user workstation) and accessed remotely by a customer's machine.

Specific protocols like Remote Desktop Protocol (RDP) are put in place between the client and the server. They provide for the transmission of the user's input from the client to the server, and for the server to send graphical output from the running application back to the client. This allows the user to remotely use the Dynamics GP application with minimal bandwidth between the customer's workstation and the Windows Server where Dynamics GP is installed.

With third-party technologies (Citrix XenApp, 2X, etc.) or with Windows Server 2008, this approach can be extended to remote application publishing. In this case, only selected applications (as opposed to the overall Windows desktop) are actually rendered to the end-user, providing a much more seamless integration.

Note: *In order to deliver Microsoft Dynamics GP to clients using RemoteApp or RD Web Access in Windows 2008 and Windows 2008 R2 Remote Desktop Services, you will need to download a hot fix. Refer to the Microsoft Dynamics GP system requirements and the [hot fix article](#) for additional information.*

Microsoft Office integration

The integration of Microsoft Dynamics GP with Microsoft Office creates a powerful tool for customers' that gives them greater flexibility to view and work with information from Dynamics GP in the applications they use every day. In order to leverage these integrations in a hosted environment, Microsoft Office must be installed on the RD Server along with Microsoft Dynamics GP. It isn't possible to integrate Microsoft Dynamics GP on the RD Server with Microsoft Office installed on the user's local workstation.

Securing the peripheral network

When Microsoft Dynamics GP is hosted by a Service Provider, it will run on a different network than the one the end-user is connected to. As a result you will need to consider the following points in order to provide secure access for your customers.

Using a VPN

In order to secure the connection to the hosting platform, you may decide to set up a Virtual Private Network. While VPN connections add an overhead to the data transmission, this is negligible in terms of altering the overall performance.

Remote access protocols are available using the native RDP port (e.g. 3389) or tunneled via a Gateway (e.g. 443). A VPN will typically increase security by allowing further control to the connection. For example, it can restrict access to the platform to only selected IPs, or it can require that a client certificate is used.

In this scenario, the end user needs to establish a VPN connection first before connecting its RDS client to the RD Server for instance.

Using remote access protocols over the Internet

While VPNs provide reliable and secure access to the platform, it is also possible to connect and leverage the Internet in a less elaborate way. Remote access protocols such as RDP or ICA can in fact be transported over HTTPs. In this scenario, the client connects to a Remote Desktop (RD) Gateway server (formerly known as - Terminal Services (TS) Gateway) sitting on the peripheral network using SSL. In turn, the RD Gateway will redirect the connection to the proper RD Server, which typically sits behind a firewall.

This feature is also available in Remote Desktop Connection 6.0 (RDC) and is available only when the remote computer is running Windows Vista/Windows 7 or Windows Server 2008. (Third-party technologies can also achieve this with Windows Server 2003.)

Security enhancement

It is possible to use the Windows RD Gateway server with the Microsoft Internet Security and Acceleration (ISA) Server to enhance security. In this scenario, you can host RD Gateway servers in a private network rather than a perimeter network and host the ISA Server in the perimeter network. The SSL connection between the end user workstation and the ISA Server can be terminated at the ISA Server, which is Internet-facing.

When SSL bridging is used, ISA Server can terminate SSL sessions, inspect packets, and re-establish SSL sessions. ISA Server helps enhance security by decrypting incoming SSL traffic, statefully inspecting the traffic for malicious code, and then blocking connections that contain suspicious packets or packets that reflect known exploits. ISA Server also performs stateful HTTP filtering, which provides deep inspection of HTTP application content.

Following are three scenarios in which ISA Server and a RD Gateway server can be used together to enhance security for remote connections to internal network resources:

- **ISA Server as an SSL bridging device (Web proxy):** In this scenario, the ISA Server is hosted in a perimeter network and provides SSL bridging

between the end user workstation and the RD Gateway server. The RD Gateway server is hosted in the corporate/private network.

- **ISA Server as a firewall and SSL bridging device:** In this scenario, the ISA Server functions as a firewall that performs port filtering, packet filtering, and SSL bridging. The RD Gateway server can be hosted in the corporate/private network or in the perimeter network, depending on whether the ISA Server is located as the external firewall or the internal firewall.
- **ISA Server as a firewall that performs port filtering (server publishing):** In this scenario, the ISA Server functions as an external packet filtering firewall and permits traffic only over port 443. The RD Gateway server is hosted in the perimeter.

For more details visit:

<http://technet.microsoft.com/en-us/library/cc731353%28WS.10%29.aspx>

Domain controller

In most cases where the end user workstation and the RD Server use different domain controllers, the end user is authenticated on their own domain controller. When connecting to the data center, a new authentication needs to take place on the remote domain controller.

The hosted domain controller can be dedicated, shared using a different Organizational Unit (OU), or configured as an AD forest. Considering that Microsoft Dynamics GP (unlike Exchange, for instance) doesn't require a distinct delineation between Configuration, Schema, and Global Catalog of one organization against another, the most probable scenario is that the hosted domain controller will separate organizations with an OU.

Active Directory Control Panel

It is recommended the Service Provider provide a front end for users or partners to manage some aspects of the Active Directory. For instance, adding/removing users or groups, assigning/removing users to groups, and also being able to change/reset user passwords.

Performance

Customers expect that regardless of how or where they access their applications from, a consistent and satisfactory level of performance is maintained. This can be achieved through load balancing and database optimization.

Load balancing

Since remote access technologies support a concurrent connection for many Microsoft Dynamics GP users, it's important to make sure of two things. First, each RD Server should be fully redundant. Second, the load should be distributed between multiple servers to ensure optimal service quality for users.

Supplemental technologies (such as Network Load balancer or RD Server Broker) allow you to easily load balance RDP sessions between RD Servers and to provide fault tolerance. In addition, if you are allowing users to log in from the Internet, you can hide the backend RD Servers from the Internet and only expose one single gateway machine. In this way, you significantly enhance the security of your RD Servers.

Both the dedicated and shared model for Microsoft Dynamics GP can be extended by introducing load balancing to support a larger number of users and to provide redundancy.

Database optimization

It is crucial to understand that choosing to run a hosted Microsoft Dynamics GP environment instead of an on-premise deployment won't have an impact (negative or positive) on database performance. The database server needs to be designed, sized and optimized with the same attention. Also, do not assume that because a data center hosts Microsoft Dynamics GP for several different customers, the sum of all users' usage will impact the overall performance. Remember that each deployment must have its own SQL Server instance. See the [Deploying the Microsoft Dynamics GP Hosted Service](#) section for more details.

Deploying the Microsoft Dynamics GP Hosted Service

In this section, the implementation details for building your hosted Microsoft Dynamics GP service will be covered. The information is provided using the recommended approach, with additional options discussed where appropriate. The decisions described in the [Planning the Microsoft Dynamics GP Hosted Service](#) section will determine the actions you will be taking during the implementation. The starting point is building the platform for the service, including the network architecture and other non-specific customer setup. The remaining setup will cover the provisioning of a new customer on this platform using the deployment models already discussed.

The deployment processes discussed are a guideline to be used when designing your own specific processes. You may determine that making adjustments to these processes will better meet your business requirements.

Service Platform

The first place to start when deploying a Microsoft Dynamics GP hosted service is with the underlying Service Platform.

Network architecture

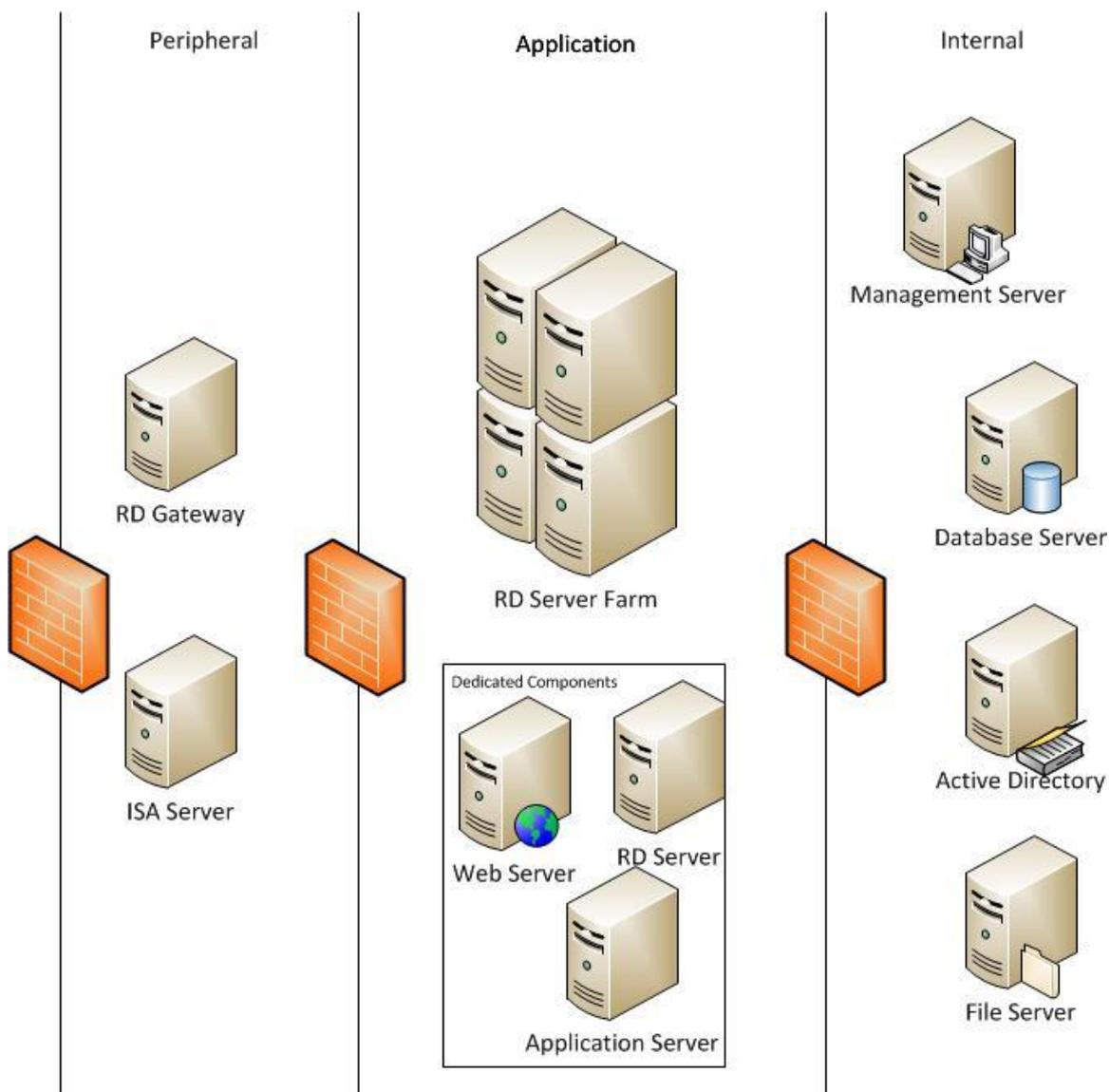
When building your Microsoft Dynamics GP hosted service it is critical that you design your network to maximize availability, security and scalability in order to meet your service level agreements. Given the large number of options here, the document will not go over the details of setting up the network and related components, but will instead provide guidance specific to Dynamics GP hosted deployments.

Implement redundancy across the components in order to remove any single point of failure from impacting all customers. There are a number of components that control user access to the application as well as providing the platform for Dynamics GP. If these components are not implemented in a redundant fashion it could impact one, some, or all customers if an individual component fails.

You will want to design a network that is protected from unauthorized access and denial of service attacks. A good practice is to use network segmentation in order to reduce the attack surface and secure data access. An example of this would be to use a multiple zone approach where zone access and communications between the zones is designed to protect the application.

You will need to assign sufficient resources to support the anticipated load with a design that allows you to scale up as demand increases. An example of this is the ability to add RD Servers and SQL Servers to the platform as demand increases.

A typical Microsoft Dynamics GP hosted deployment may look like the diagram below.



The diagram shows the different zones and the components typically deployed in each of them. The diagram doesn't specifically show the redundant components, but it is assumed that you would implement redundant components across the environment. The zone closest to the internet is the Peripheral zone. You may have one or more Peripheral zones that provide intrusion detection, denial of service (DoS) blocking, first level authentication and application proxy services. The Peripheral zones primary purpose is to protect access to the zones that contain the application components. The Dynamics GP components are typically deployed into the application and internal zones.

The database server is typically shared across multiple customers using the multi-instance functionality in Microsoft SQL Server. You will deploy the initial database server as part of the platform setup. A new named instance of SQL Server and optionally reporting services and analysis services will need to be installed with the provisioning of each customer. For planning purposes the maximum number of SQL instances per database server is 50 (25 on a fail over cluster), however you may not

get this many instances per server depending on the resource demands of the customers deployed to the server. The resource demands of each new customer added to the environment will need to be calculated in order to determine if the server has sufficient capacity. You will need to add new database servers as the number of customers and existing customer demands increase. You may also need to move customers from one server to another in certain cases where additional resources are required due to growth. In order to even further increase your SLA, it is also possible to enable fail over clustering for SQL Server as explained in [KB926490](#) (PartnerSource login required).

The RD Server farm is typically shared by multiple customers using the multi-instance functionality in Dynamics GP. Because multiple customers are sharing a large number of load balanced servers, you are able to cost effectively offer high availability and performance to all customers no matter of their size and number of users. You will want to build the RD Server farm as part of the platform setup. A named instance of the Dynamics GP client will be installed to each of the servers during the customer provisioning. For planning purposes, the maximum number of Dynamics GP instances per machine is 51 including the default instance. It is possible however to use a single farm with more than 51 customers by having customer instances only deployed to a sub-set of the RD Servers in the farm. You would then be able to use RD Connection Broker and RD Session Host to direct users to their instance of the application on the servers where it is deployed. If you are deploying the Dynamics GP client in a dedicated environment you would set up the RD Servers as part of the customer provisioning process.

The remaining Dynamics GP optional components that will be deployed into the shared model would typically have the host server and component deployed as part of the platform setup. The components deployed in a dedicated environment would typically have the servers deployed as part of the customer provisioning process.

Bandwidth recommendations

Internet access

As a general rule, accessing Microsoft Dynamics GP through the Internet via an RD Server requires the connection to the Data Center to be at least:

- 30Kbs of bandwidth per session
- latency that does not exceed 150 ms

Internal network

The Service Provider internal network speed (e.g. between RD Server and Database Server) should be at least 1Gbps.

Domain controller

When running a dedicated platform for Microsoft Dynamics GP, it is possible to have a dedicated domain controller. However, when running different customer instances on the same platform, the user domain accounts will be managed in the same domain controller.

Using Microsoft HMC (Hosted Messaging and Collaboration) principles, it is recommended that you use the Organization Unit (OU) to segregate customers.

Under the root of your domain in Active Directory Users and Computer Management Console (dsa, msc), create your customers entry point. For example you can use “Hosting” as the name for the OU. An OU will then be created under the “Hosting” OU for each customer as they are provisioned.



Group policies

There are some specific Group Policy considerations to make when deploying a hosted Microsoft Dynamics GP service.

Time zone redirection

By default, RD Server keeps track of time according to the time zone in which it has been configured, rather than on a per-user basis. This can be a problem when a user connects to a RD Server outside of the time zone in which the user is located, because the local computer uses the time configured on the RD Server rather than the local time. If you are hosting time-sensitive applications on your RD Server, or if you have processes in place that depend on the user’s current local time (such as financial systems and calendaring), you might want to enable the Allow Time Zone Redirection Group Policy setting.

This policy is located in Windows Components/Terminal Services. With this setting enabled, Remote Desktop Services uses the server base-time on the RD Server and the client time zone information to calculate the time on the session.

Locking RD Server session

The challenge with RD Server is to lock down the servers as much as possible without affecting end-user functionality. To aid in this challenge, Microsoft (among others) has published an [article](#) that will guide you through this process. When these guidelines are followed, the environment is more secure. For instance, the group policies can prevent users from opening the command prompt, shutting down the server, or accessing the registry.

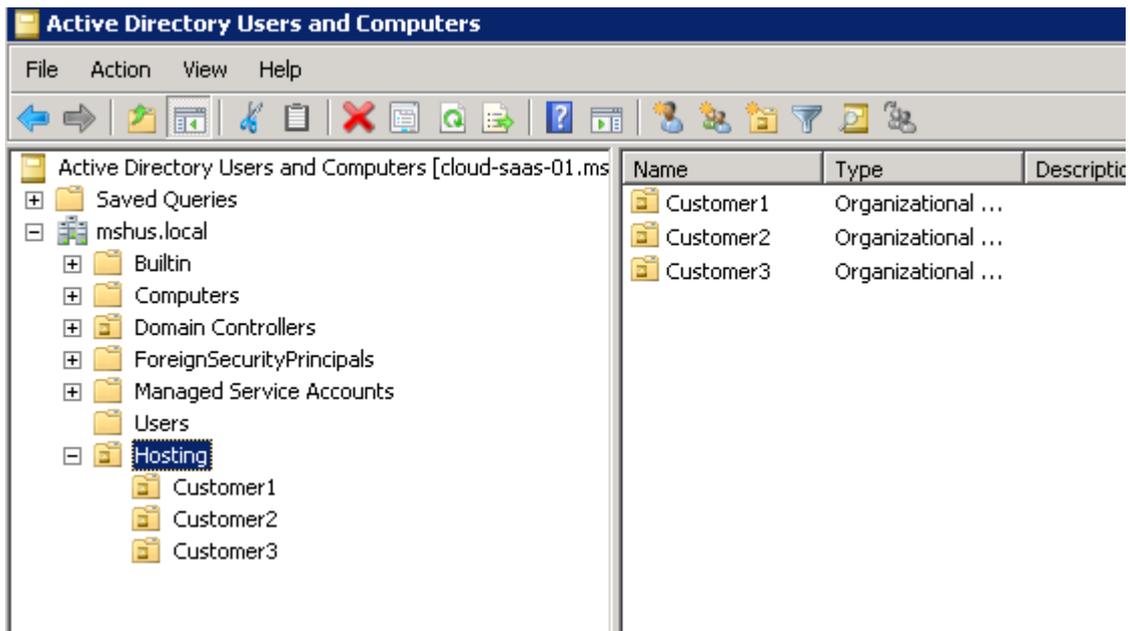
Provisioning a Customer

This section provides information on provisioning a new customer in your hosting environment. The process contains information for both hosting models defined earlier in this document.

Setting up Active Directory

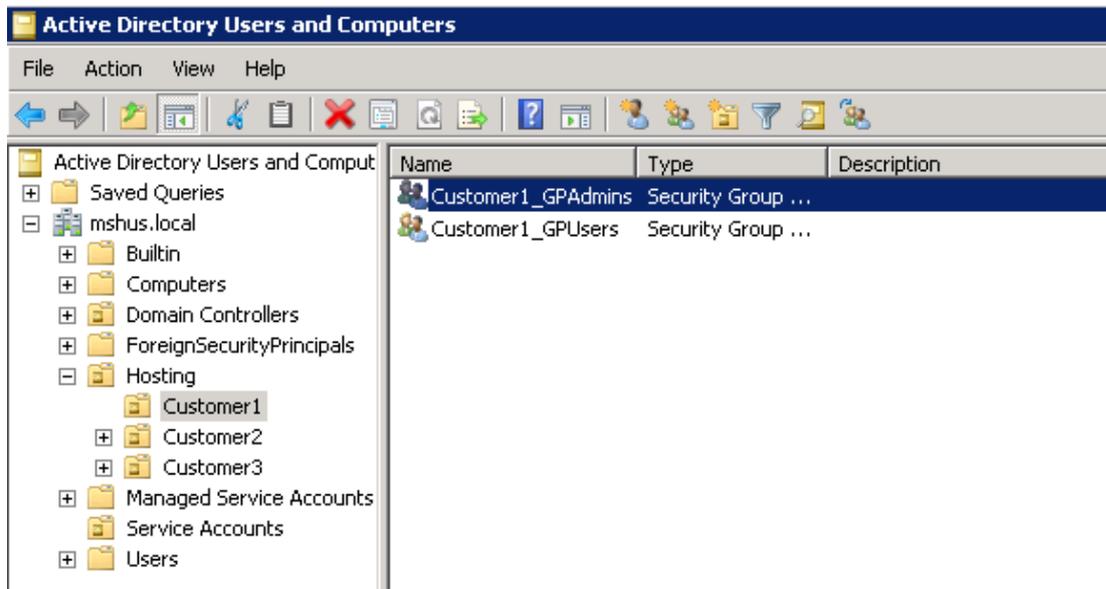
Under the “Hosting” organizational unit, create an organizational unit for the customer.

1. Right click “Hosting”
2. Select New Organization Unit
3. Enter a unique name for the Customer (e.g. Customer1) and click Ok.



It is also recommended to create at least 2 groups, one for admin users and one for regular users, for assigning folder permissions.

1. Right click the Customer OU and click on New
2. Select Group
3. Enter the name of the Groups (e.g. Customer1_GPAdmins and Customer1_GPUsers) and click Ok.



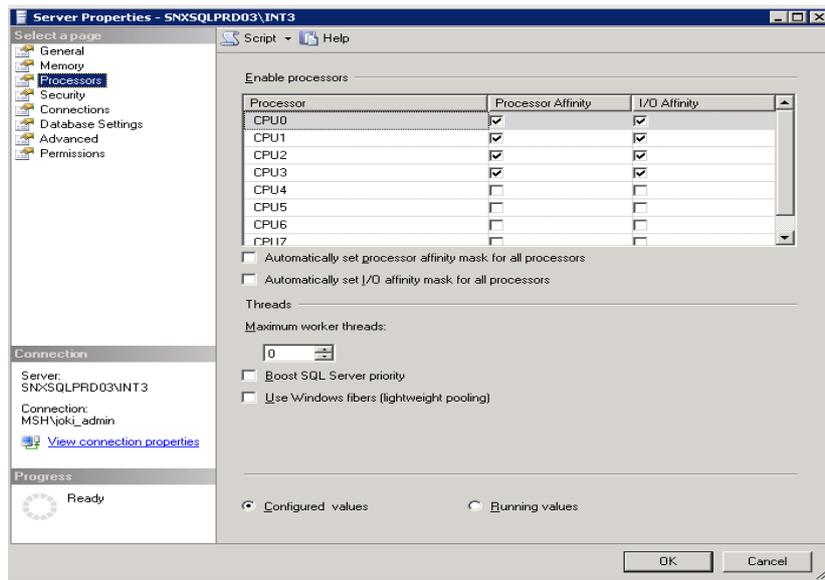
From this point, an administrative user should be created by the Service Provider (“GP Admin” for example). This user can be given to the customer to add the remaining users via a control panel.

Create a SQL Server instance

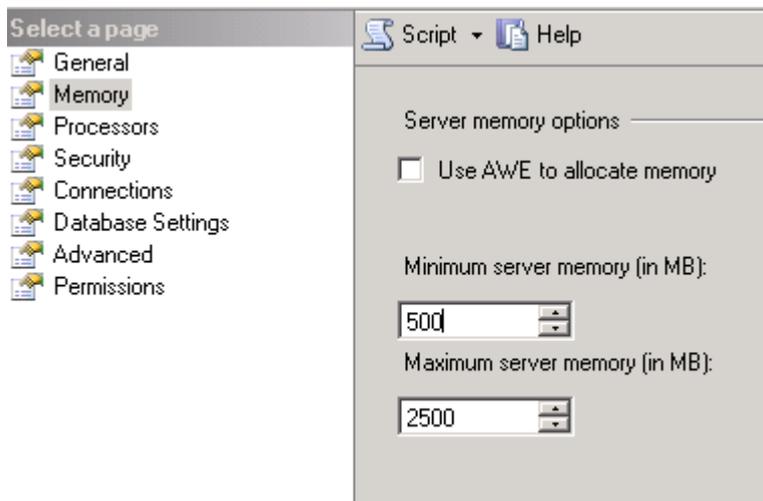
It is recommended that SQL Server is installed on a physical server versus a virtual server. However, it is possible to leverage the same hardware for multiple customers by using the SQL Server multi-instance capability. The installation of the SQL Server instance for the customer may also include the deployment of SQL Server Reporting Services and/or Analysis Services. Refer to the *Planning for Extranet or Internet Deployment of SSRS* reference at the end of the document for additional information on deploying SQL Server Reporting Services for Internet access.

It is important to calculate the SQL Server system requirements for the customer to determine if there is capacity on an existing database server. If there is capacity, then install a new SQL Server instance on the database server. If there isn’t, a new database server will need to be deployed and the customer’s SQL Server instance installed to the new database server.

A best practice when using SQL Server multi-instance is to optimize the distribution of each instance over the different CPUs of the server. It is recommended that you configure each instance to only use a subset of the available CPUs. In the SQL Server Management Studio, connect to the instance you want to configure (Right click and select “Properties”). Uncheck the “automatically set processor (I/O) affinity...” boxes as shown below and assign the CPU’s accordingly.



Similarly, memory allocation should be managed. By default, each SQL Instance will use all available memory. This can cause resource exhaustion for other instances. To prevent this, it is recommended to set min/max server memory properties for each instance:



The specific amount will depend on the available capacity of the SQL Server machine and the system requirements for the customer being provisioned.

Lastly, a SQL login account assigned at least to the securityadmin server role should be created for the customer in order to create and manage users in Microsoft Dynamics GP.

Create the Dynamics GP databases

The creation of the Dynamics GP databases is done using the Dynamics Utilities application installed with the Dynamics GP client. Since the database creation process can be resource intensive, it is recommended that a Dynamics GP client installation on a management server, instead of the customer shared RD Server, is

used for creating the databases. You will install an instance of the Dynamics GP client on the management server for the customer and then run Dynamics Utilities to create a system and one or more company databases. You can also create a sample database using Dynamics Utilities.

Install the Dynamics GP client instance

The Dynamics GP client instance is installed on the RD Server. The deployment process will vary slightly depending on the deployment model being used.

Dedicated

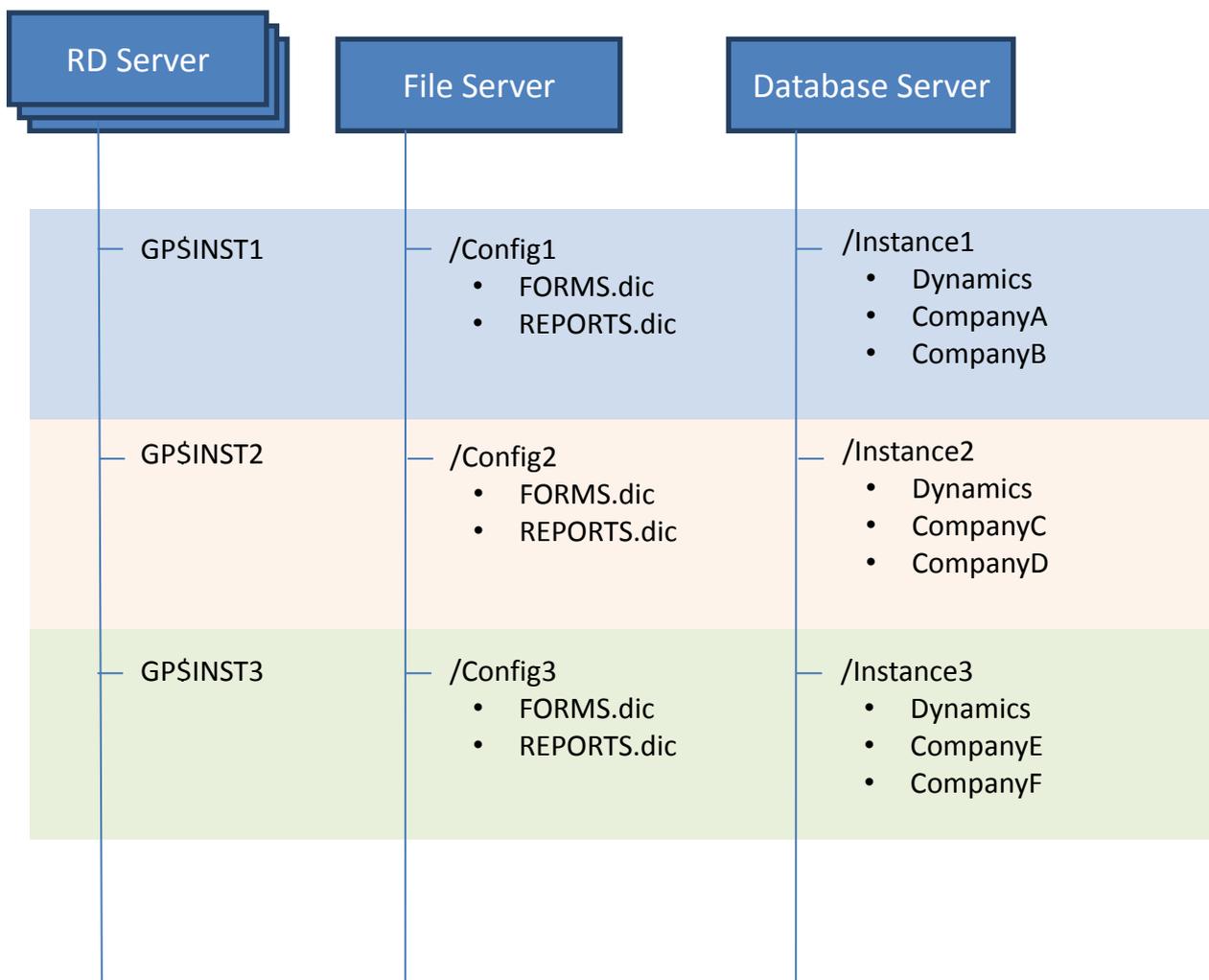
When using the dedicated deployment model, the provisioning of a new customer will include the setup of the RD Servers. It is recommended that you have at least 2 loaded balanced RD Servers per customer to avoid a single point of failure. After the RD Server farm is configured, the Dynamics GP client will be installed on each of the RD Servers in the farm. The Dynamics GP client can be installed using either the command line or full UI method. If you use the full UI method, the installer will automatically install a default instance assuming Dynamics GP isn't already installed on the computer. Whether to install a named instance or default instance, as well as the other installation options, is provided as installation parameters when using the command line installation. Refer to [this article](#) for installation parameters.

Shared

When using the shared deployment model, there are two options for deploying customers. The recommended approach is to use the Dynamics GP multi-instance functionality to install an application instance per customer. The installation in this case takes care of the customer specific configuration and each customer instance is isolated from other customer instances. The second approach is to use a single installation of the Dynamics GP client and manually configure the customer specific information. Refer to [Appendix A](#) for information on using the single installation option.

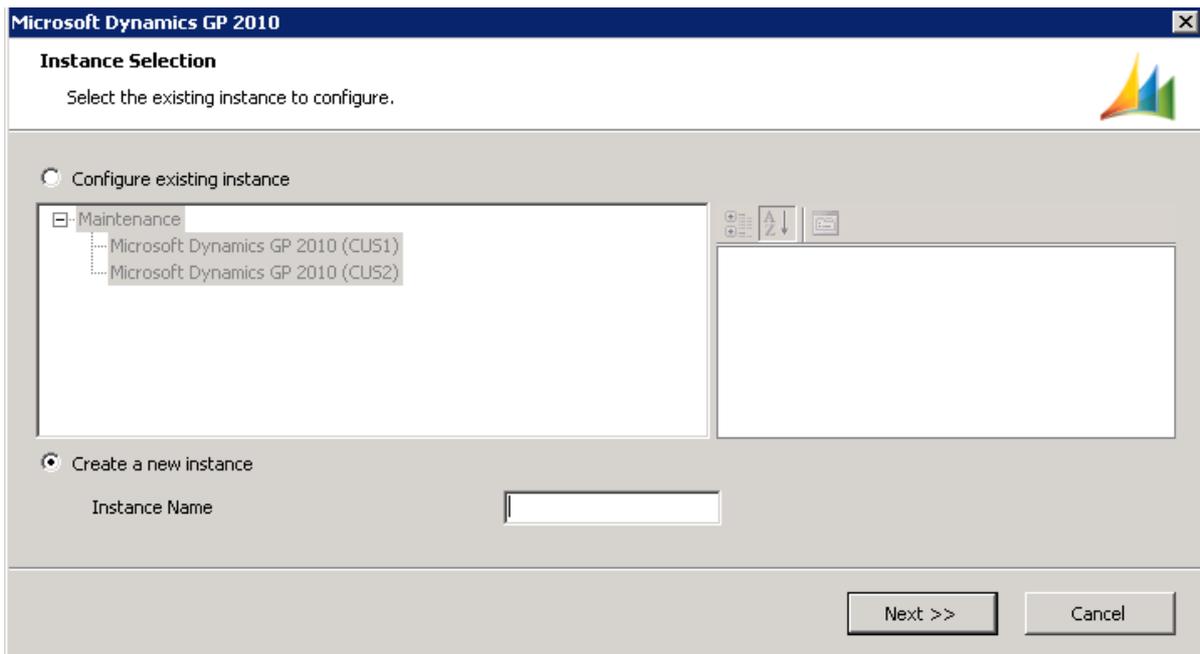
Using Microsoft Dynamics GP multi-instance

It is possible and supported to install multiple instances of GP on the same machine. The diagram below shows how multiple instances can co-exist:



Installing a new named instance will create a separate isolated installation of Dynamics GP on the computer. It will install the files to a separate directory and create a new installed application that can be maintained independently of other instances. With this method, it is possible to have different installed versions and service packs on the same machine.

Run the installation on each of the servers in the RD Server farm. When running the installer in full UI mode and the computer already has a default instance of Dynamics GP, an instance selection window will be displayed where you can select to install a new instance. Other maintenance and upgrade options may also appear depending on the current state of the machine. Select to install a new instance of Dynamics GP and type in a unique instance name for the customer.



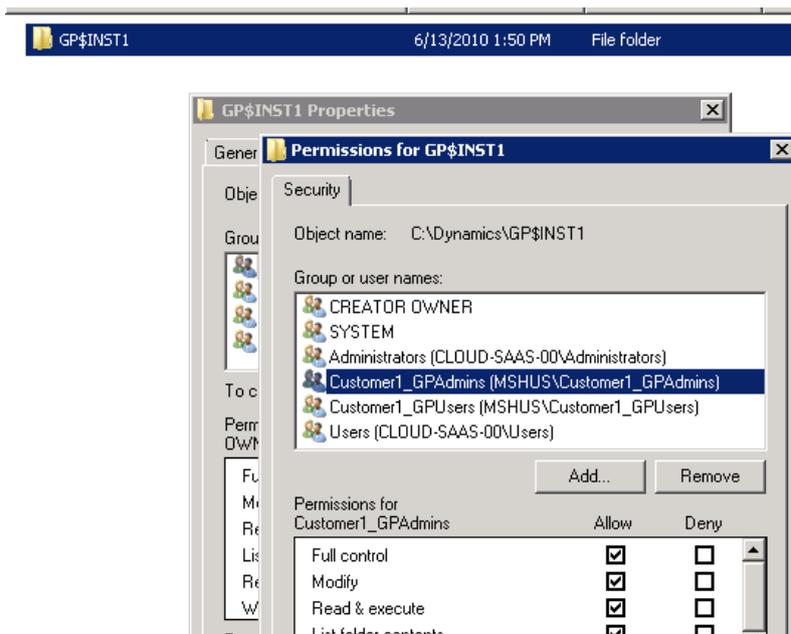
If installing using the command line, you will need to provide the instance name using the `INSTANCE_NAME` parameter in addition to the other installation parameters. Refer to [this article](#) for installation parameters.

Once installed you will want to make sure that:

- Each RD Server can access the SQL Server created earlier, which means that connectivity and firewalls are properly configured (typically the TCP/IP port for SQL Engine listener).
- The ODBC Data Source is created and available from each RD Server.

You also need to configure permissions for the folder under which the Microsoft Dynamics GP instance binaries are installed using the AD groups created earlier:

1. Right click on the directory
2. Open the security tab.
3. Give Full Control to Customer1_GPAdmins and Read only to Customer1_GPUsers (the Customer1_GPUsers will still need to be given read and write permissions to the data subfolder however)

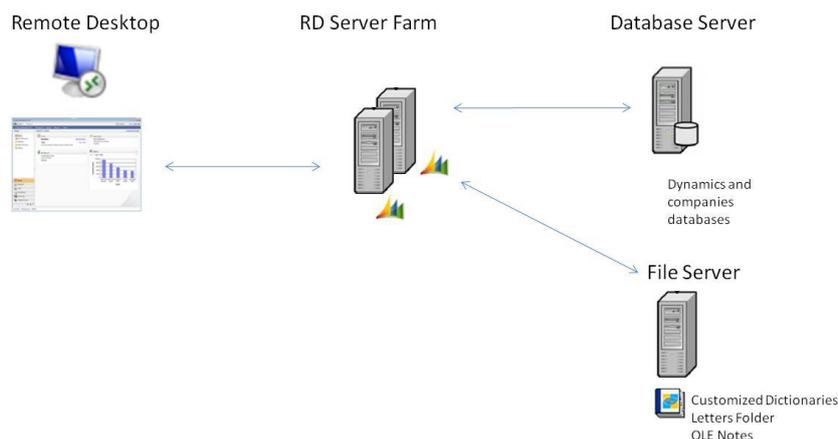


Configure the Dynamics GP client instance

In the environment where the customer may be accessing any of the servers in a load balanced farm, you would typically want to configure Dynamics GP to access certain files from a customer specific network share. These files would contain customer specific customizations to reports and windows, custom word templates and notes. You can configure all or a sub-set of these to use the network share location. The steps to configure the system are.

1. Create a customer network share.
2. Assign the customer's groups with read and write permissions to the folder. (assuming members of the users group will be creating and modifying files)
3. Report and Window customizations – Modify the Dynamics.set file in the installation directory. It contains a list of the code, reports and form dictionaries to load. The installation will set the code dictionaries to load out of the installation directory. You shouldn't need to modify these entries. The reports and forms dictionaries contain the customized versions of the application reports and windows. The installation will configure these to load from a data sub-folder of the installation directory. In most cases you would want the installation on each machine to access these customized files from a common location instead. In this scenario you may want to modify the path in these files to load the files out of the network share location created for the customer.
4. Letter Wizard templates –
 - a. Copy the Letters folder from the customer's installation directory to the network share location.
 - b. Modify the Dex.ini file in the data folder of the installation directory. Provide the path to the network share location for the "Word Macro File" and "Letters Directory" lines.
5. OLE Notes - Modify the Dex.ini file in the data folder of the installation directory. Provide the path to the network share location for the "OLEPath" line.

The following diagram summarizes the setup:



For optimal performance, the customized reports and forms dictionary files may be propagated to the installation directory of all the RD Servers rather than being centralized on a File Server. In this model you will need to make sure that further customizations are only made in a single dictionary file that is then copied to each of the RD Servers. The copying of the file will need to be done during a maintenance period when users will not have the file open.

User level configuration

There is a file in the data folder of the installation directory called the Dex.ini that contains user specific information, like the last login, printer information, and other 'user information'. It is possible to modify the default configuration to provide the Dex.ini at a user specific level instead of the default installation level. This is possible by using default application functionality whereby the application upon launch will look for this file in the user's profile directory if it can't find a file in the installation directory or path provided as a parameter during the launch. In order to maintain user specific settings on a RD Server, you would need to copy this file into each user's profile location and remove the Dex.ini file from the installation directories data folder.

Note: If the file doesn't exist in the user's profile directory it will attempt to create it, but it doesn't get created with all of the parameters. As a result the user wouldn't be able to get into the application.

Install additional Dynamics GP components

Depending on the additional Dynamics GP components you support and what components the customer is using, you may need to install any number of the following optional components.

Web Services for Microsoft Dynamics GP

You will need to install Web Services if the customer will be installing Workflow or any other application that integrates with Dynamics GP using the web services. There was a significant architecture change between Web Services for Microsoft Dynamics GP 10.0 and Web Services for Microsoft Dynamics GP 2010.

Web Service for Microsoft Dynamics GP 10.0

The Dynamics GP 10.0 version of web services requires a dedicated web server with Internet Information Services (IIS) as a prerequisite. The provisioning of web services for a new customer will require the setup of a dedicated Windows Server for the customer. Typically this would be set up using a virtual server.

Web Services for Microsoft Dynamics GP 2010

Microsoft Dynamics GP 2010 no longer requires IIS as a prerequisite, but is instead a Windows service that runs on an application server using Windows Communication Foundation (WCF) as a foundation. It is designed to be installed in a dedicated environment, but with a number of manual steps you can configure multiple instances on a single application server. You will need to weigh the cost and benefits of the manual steps over setting up a dedicated server to determine the approach you will take. Refer to [this article](#) for more information on the steps to implement multiple instances of Web Services for Microsoft Dynamics GP 2010.

eConnect for Microsoft Dynamics GP

You will need to install eConnect if the customer will be installing any other applications that integrate with Dynamics GP using eConnect. eConnect would be installed on the same computer as the application using it. An example would be if using Integration Manager with the eConnect adapters, both eConnect and Integration Manager would be installed on the RD Server.

Workflow for Microsoft Dynamics GP

Workflow is installed on a dedicated Web Server with SharePoint. Workflow for Microsoft Dynamics GP 10.0 supports being installed on Microsoft Office SharePoint Server 2007 only. Workflow for Microsoft Dynamics GP 2010 supports being installed on Windows SharePoint Services 3.0, Microsoft Office SharePoint Server 2007, Microsoft SharePoint Foundation 2010 or Microsoft SharePoint Server 2010. Web Services must be installed (on same server or different server) prior to installing Workflow. Typically the Web Server for Workflow would be set up using a virtual server.

Business Portal for Microsoft Dynamics GP

Business Portal is installed on a dedicated Web Server with SharePoint. Business Portal for Microsoft Dynamics GP 10.0 supports being installed on Windows SharePoint Services 3.0 or Microsoft Office SharePoint Server 2007 (BP 4.0). Business Portal for Microsoft Dynamics GP 2010 supports being installed on Windows SharePoint Services 3.0 or Microsoft Office SharePoint Server 2007 (BP 5.0), and Microsoft SharePoint Foundation 2010 or Microsoft SharePoint Server 2010 (BP 5.1). Web Services must be installed (on same server or different server) prior to installing Business Portal for Microsoft Dynamics GP 10.0 on Microsoft Office SharePoint Server 2007 and Business Portal for Microsoft Dynamics GP 2010 on Microsoft SharePoint Foundation 2010 or Microsoft SharePoint Server 2010. Typically this would be set up using a virtual server.

Integration Manager for Microsoft Dynamics GP

Integration Manager is installed on a dedicated RD Server. Depending on the adapters installed, it may require either the Dynamics GP client or eConnect (or both) to be installed on the RD Server as well.

SQL Server Reporting Services Wizard

A single installation of the SQL Server Reporting Services Wizard can deploy the SRS reports for all customer instances of SQL Reporting Services. The wizard must be installed on the same computer as the Reporting Services web service however. When running the SQL Server Reporting Services Wizard you will specify the customer's Dynamics GP data and Reporting Services web service locations for deploying the reports.

Microsoft Office SharePoint Server Wizard

A single installation of the Microsoft Office SharePoint Server Wizard can deploy the Excel reports and Office Data Connections for all customers sharing a single SharePoint Server. The wizard must be installed on the same computer as SharePoint however. When running the Microsoft Office SharePoint Server Wizard you will specify the customer's Dynamics GP data and SharePoint library locations for deploying the reports.

Analysis Cubes Server for Microsoft Dynamics GP

A single installation of the Analysis Cubes Server can deploy the Analysis Cubes for all customer instances of Analysis Services. The Analysis Cubes Server installation will install both the SQL Server 2005 and SQL Server 2008 Analysis Cubes Configuration Wizards. It is recommended to install to a management server that can connect to the Analysis Services server. When running the Analysis Cubes Configuration Wizard you will specify the customer's Dynamics GP data and Analysis Cubes data locations for deploying the warehouses.

Management Reporter

Management Reporter includes database, application server and client components. It is designed to be installed in a dedicated environment, but with a few manual steps you can configure multiple instances on a single application server. Service Providers are also able to support multiple customers on a single installation of the client with a couple of small configuration changes, or they can also use multiple different client installations. Each customer will require their own Management Reporter database instance. Service Providers must weigh the cost and benefits of the manual steps over setting up a dedicated server to determine the approach to take. Refer to [this article](#) for more information on the steps to implement multiple instances of Management Reporter.

FRx

FRx will be installed on the RD server farm. The same FRx client installation can be shared between different customers by leveraging the FRxConfig.xml configuration file.

The FRxConfig.xml file is a new file installed with FRx version 6.7.9111 (R09670) and later versions. The file supports multiple installations on a machine and allows users to load FRx with specific directories.

The Sysdata and IO_Data directories are read from the FRxConfig.xml in the user's profile. The new file has the following format and is located in \Documents and Settings\\Local Settings\Application Data\FRx Software\FRx 6.7 (for Windows 2000 and XP), or in \Users\\AppData\Local\FRx Software\FRx 6.7(for Windows 7/2008).

```
<?xml version="1.0" standalone='yes'?>
<configuration>
<frxInstallation programPath=C:\Program Files\FRxSoftware\FRx 6.7>
<sysdataPath>\server\share_Customer1\Sysdata</sysdataPath>
<iodataPath> \server\share Customer1\IO_data</iodataPath>
</frxInstallation>
</configuration>
```

ISV Solutions

You will need to deploy the ISV Solutions you will host for the customer. The ISV solution will typically be installed on the same server as an existing Dynamics GP component it is built on. It is recommended that you first deploy the ISV solution in a test environment before deploying into your live hosting environment.

Backup Routines

The backup regimen will depend on the defined Service Level Agreement (SLA), but the baseline service is to ensure that both the data and the servers have backups so that in case of a disaster, the overall platform can be rebuilt rapidly. The following table shows a recommended strategy for maintaining regular backups:

Scope	Frequency	Retention	Recommend Technology
SQL Server Data files	Daily	1 month	Scheduled SQL Backup
SQL Transactional Logs	Hourly (*)	1 week	Scheduled SQL Backup
Server OS	Daily	1 month	SAN Backup (Snapshots)

(*) Not a typical service

For data-related backups, relying on SQL Server backup functionality is recommended. Typically, the database administrator will engineer the backup strategy. Considering the business critical nature of Microsoft Dynamics GP, it is recommended that you schedule backups as part of a daily maintenance plan that runs after business hours. See the [References](#) section for an example of a database maintenance plan.

The Operating System backup process is greatly simplified if the overall platform storage is supported via a Storage Area Network (SAN) that provides snapshot

backup functionality. This technology provides for rapid data block backup. Recent technologies are also capable of identifying the essential data to be backed up and stripping out redundant information, such as Operating System binaries for example.

In the rare case of a hardware failure, backing up the Operating System will allow you to restore the run time execution platform for Microsoft Dynamics GP rapidly. This will allow you to avoid reinstalling Microsoft Dynamics GP clients throughout the RD Server and database servers. Also all the configurations of the users' profile information will be preserved.

The Service Provider also needs to guarantee the protection of the backup media during the retention period and would typically have an offsite location to physically keep them safe.

References

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- Remote Desktop Gateway (RD Gateway)
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<http://technet.microsoft.com/en-us/library/cc730673.aspx>
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- Configuration steps for deploying multiple instances of Web Services for Dynamics GP 2010
https://mbs.microsoft.com/partnersource/deployment/documentation/howtoarticles/MDGP2010_MultipleInstancesWebServices
- Configuration steps for deploying multiple instances of Management Reporter for Microsoft Dynamics ERP
https://mbs.microsoft.com/partnersource/deployment/documentation/howtoarticles/MD_MultipleInstancesManagementReporter

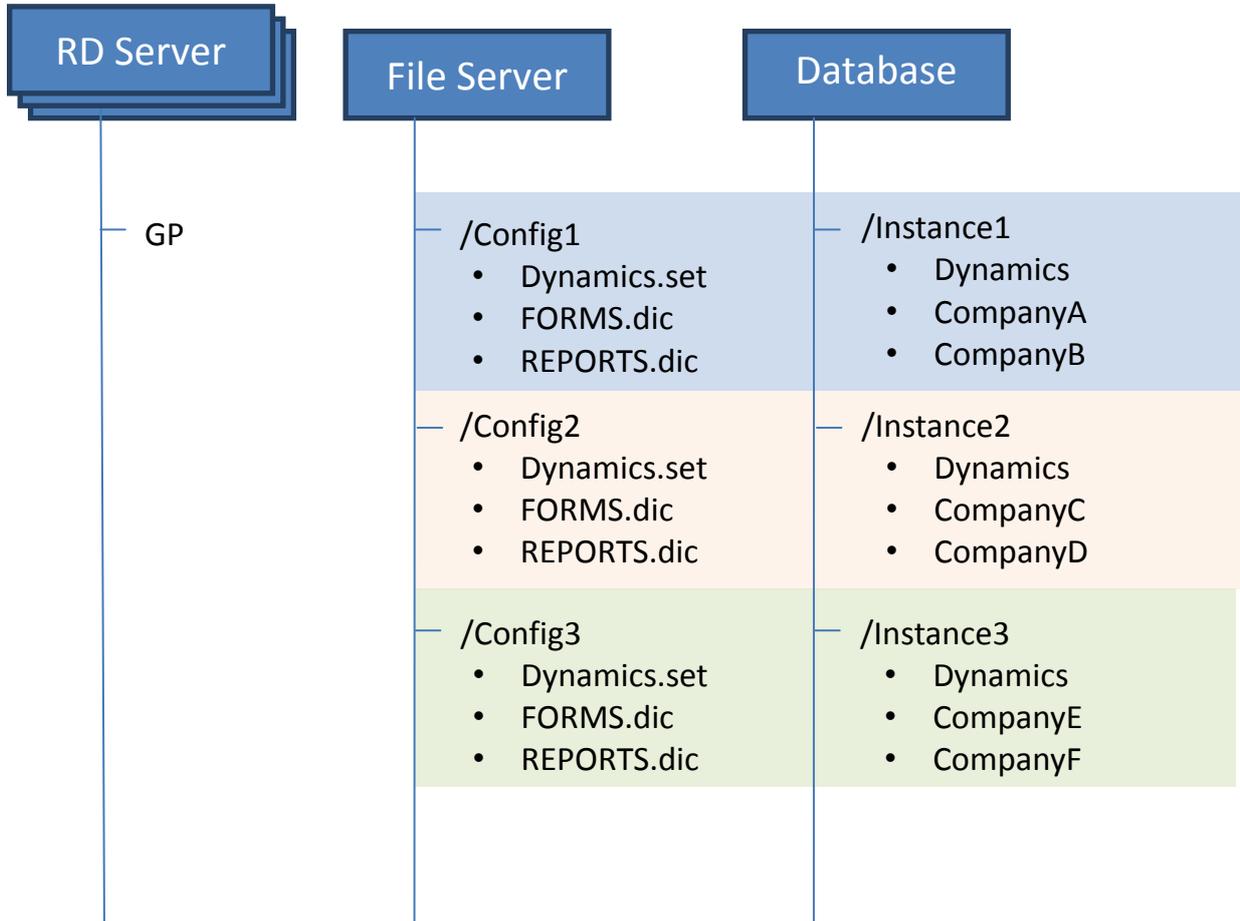
About the Author

This document was co-authored with Microsoft by SaaSplaza. SaaSplaza is a founding member of the Microsoft Software + Services Incubation Center that currently hosts the complete portfolio of Microsoft software products including Microsoft Dynamics products.

Appendix A - Using Dynamics GP in a Single Instance

It is also possible and supported to use the same Dynamics GP instance with customer specific configurations. This configuration will require a number of manual steps during the initial setup and also when loading updates.

The diagram below shows how multiple customer configurations on a single Dynamics GP installation can co-exist:



In this scenario, the following limitations apply:

- Each tenant must use the same version of Dynamics GP
- If Dynamics GP is upgraded for one tenant, then every other tenant must upgrade at the same time
- All tenants must share the same account framework

In this configuration option, the customer specific information will need to be manually configured and the customer specific configuration files provided as parameters when launching Dynamics GP. The two configuration files are the Dynamics.set and the dex.ini. The dex.ini file can either be passed in as a parameter or deployed per user using the user level configuration process defined earlier in the document.

Use these steps to complete this configuration:

1. Install the Dynamics GP client on the RD Servers (select all features available to customers)
2. Create a network share location for the customer
3. Create a system ODBC DSN for the customer's SQL Server instance
4. Copy the Dynamics.set file from the installation directory to the customer's network share location.
5. Modify the Dynamics.set file in the customer's network share location.

The Dynamics.set file contains the products that are loaded for each customer. In this deployment scenario, you will modify the Dynamics.set to load only the products required for this customer. This is done by modifying the first line to be the total number of products being loaded. You would then remove the Product IDs and Product Names you don't want loaded from the upper portion of the file and the corresponding code, reports and forms dictionary paths from the lower portion. The file will need to be saved to a customer specific location and referenced when launching the Dynamics GP application.

6. Copy the letters folder from the data folder of the installation directory to the customer's network share location.
7. Copy the dex.ini file from the data folder of the installation directory to the customer's network share location. (In most situations you would want to instead deploy this using the user level configuration discussed earlier)
8. Modify the dex.ini file in the customer's network share location.

The Dex.ini file contains customer and user specific configuration settings. You will need to modify this file to set the customer specific settings to the appropriate values. This includes making the following changes:

- Word Macro File – Modify the path to the customer network share location.
- Letters Directory – Modify the path to the customer network share location.
- OLEPath - Modify the path to the customer network share location. (will need to create the notes folder structure in the customer's network share location first)
- SQLLastDataSource – Will need to be changed to the ODBC DSN set up for the customer's SQL Server instance

9. Modify the launching of the Dynamics GP application shortcut.

There are a number of different ways that these files could be passed in as parameters. You could use a launch command per customer with the location of the files specified using a UNC path. Example:

```
"C:\Program Files\Microsoft Dynamics\GP\Dynamics.exe"  
"\\Share$\Config1\Dynamics.set" "\\Share$\Config1\dex.ini"
```

You could map each customer specific network share location as the same drive letter for each customer and then use a single launch command. For example:

```
"C:\Program Files\Microsoft Dynamics\GP\Dynamics.exe" "R:\Dynamics.set"  
"R:\dex.ini".
```

About Microsoft Dynamics

Microsoft Dynamics is a line of integrated, adaptable business management solutions that enables you and your people to make business decisions with greater confidence.

Microsoft Dynamics works like and with familiar Microsoft software such as Microsoft Office, which means less of a learning curve for your people, so they can get up and running quickly and focus on what's most important. Built to work with Microsoft technologies, it works easily with the systems your company already has implemented. By automating and streamlining financial, customer relationship, and supply chain processes, Microsoft Dynamics brings together people, processes, and technologies, helping increase the productivity and effectiveness of your business, and helping you drive business success.



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