ExtraFax Virtualization Quick Reference Guide

Review this quick reference guide to learn about the benefits of virtual servers and five different ways that ExtraFax can be migrated to a virtual server environment.

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Introduction:

      With the ongoing trend in many organizations to consolidate and reduce the number of physical servers in their environment to help save capital and operating costs, many companies continue to virtualize their servers. Running servers in a virtual environment such as VMware or Microsoft Hyper-V has quickly become the new standard in I.T. datacenters.

At Extracomm, many customers have asked us "I want to virtualize my ExtraFax server. How can I do this?" Generally speaking, there has always been one major hurdle to overcome as it relates to being able to virtualize any fax server, including ExtraFax. The main issue relates to the fact that fax boards are not natively compatible when installed directly within virtual server hardware. This dilemma has prevented many organizations from being able to virtualize their ExtraFax server. This document will highlight some of the different methods that organizations can consider which would allow them to virtualize their ExtraFax server implementation.

Before we look at different ExtraFax virtualization scenarios, let's review the top 5 benefits for adopting server virtualization.

Top 5 Benefits of Server Virtualization

1. Server Consolidation = Cost Savings

By consolidating physical servers into virtual servers, not only does it reduce the number total of physical servers needed for IT operations, it creates an automatic opportunity for cost savings since less server hardware is required. Furthermore, there are also cost savings as it relates to reducing the datacenter rack space, floor space as well as power and cooling requirements. At a datacenter, this will help yield significant overall cost savings.

2. Do more with less

With a struggling economy, IT departments and admins have no choice but to do more with less. Server virtualization makes admins more efficient, which helps to free up their time to work on other projects.

3. Allocate server resource more effectively

Before server virtualization existed, administrators would often over-provision servers to ensure that they would meet user needs and demand. Server virtualization minimizes the need for over-provisioning of server resources since admins are able to size every virtual machine as needed.

4. Moving virtual machines from Host to Host

One of the most powerful features of server virtualization is the ability to move a virtual machine from one host to another with no side effect or downtime to the end user community.

5. Disaster Recovery with ease

Since virtual machines are not tied to specific server hardware, when needed, it is possible to restore image-based backups on any server hardware that is capable of running a virtual server.
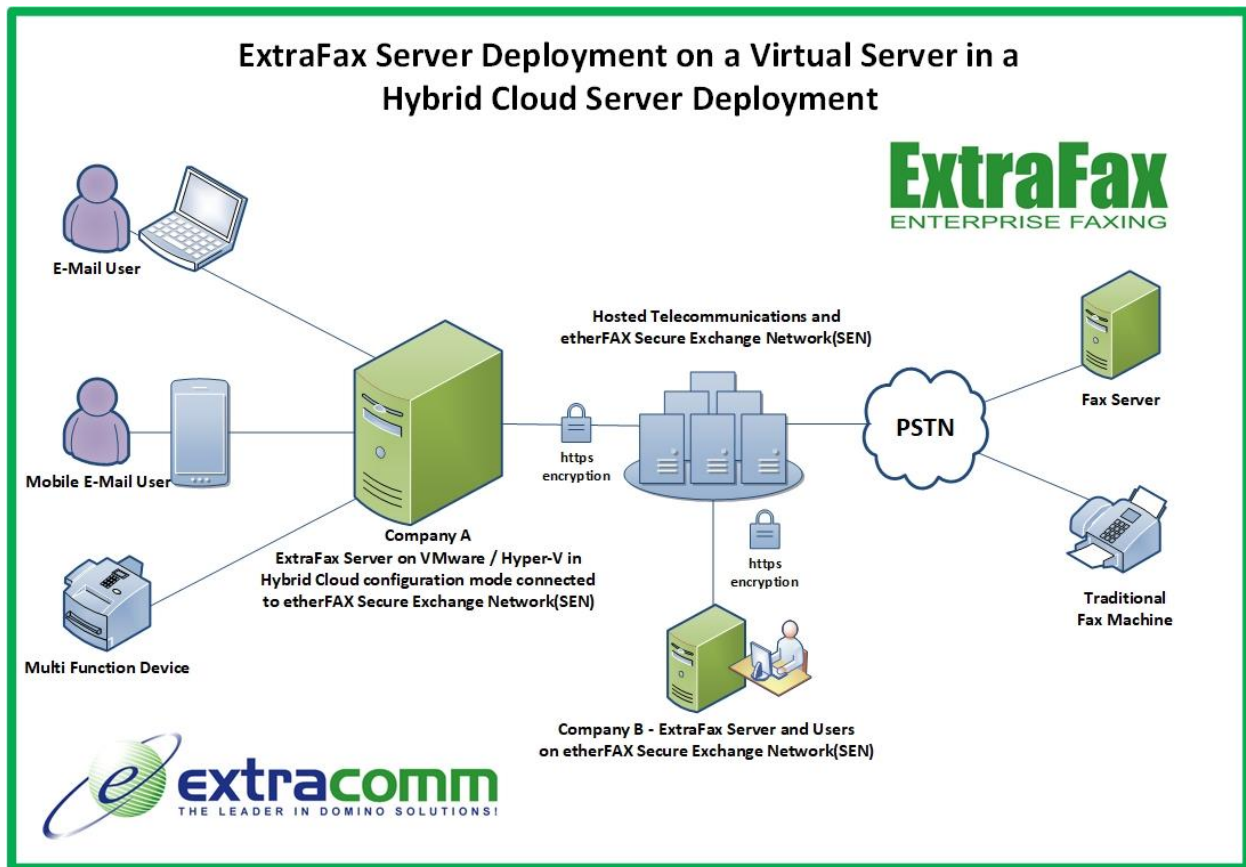
ExtraFax Server - Virtualization Scenarios

Scenario 1: 100% Virtualization of an ExtraFax server using Hybrid Cloud implementation.

As more and more companies shift parts of their I.T. infrastructure to a cloud-based model to cut costs, security and compliance becomes increasingly important especially in financial sectors as well as at healthcare and insurance companies. Secure transmission between organizations is essential. Installing ExtraFax in a Hybrid Cloud configuration can help meet these requirements. To save some costs, ExtraFax can be installed on-premise within a Virtual Server environment at any organization without the need to purchase and manage expensive fax hardware and telecommunication gateways. With the ExtraFax server remaining on-premise, security for stored fax data is maintained within the organization. Security for fax transmission is also maintained by leveraging the new ExtraFax Hybrid cloud integration that sends and receives faxes securely and encrypted using a fully hosted and managed cloud-based telecommunications infrastructure through our trusted partners over at etherFAX.

With an ExtraFax hybrid cloud implementation, organizations maintain full control over the administration of the on-premise ExtraFax server and for the security of faxes that are stored on that server. All fax communications between the on-premise ExtraFax server and the hosted telecommunications provider in the cloud are securely delivered and received over an encrypted https connection. Faxes will never be stored off-site; they are simply processed for transmission and remain stored only on the ExtraFax on-premise server. Another major benefit of using ExtraFax in a Hybrid Cloud implementation is the ability to leverage the etherFAX Secure Exchange Network(SEN). If the intended fax recipient is also part of the etherFAX SEN, as an example, a 30-page fax is delivered in mere seconds, instead of the usual 30 minutes that it would take to transmit the fax when sending to another fax recipient that is only connected to a PSTN line. The SEN allows users to be more productive and time sensitive information such as patient healthcare information can be delivered almost instantly all while ensuring data security.

Figure 1: ExtraFax Hybrid Cloud implementation in a 100% virtual server environment.
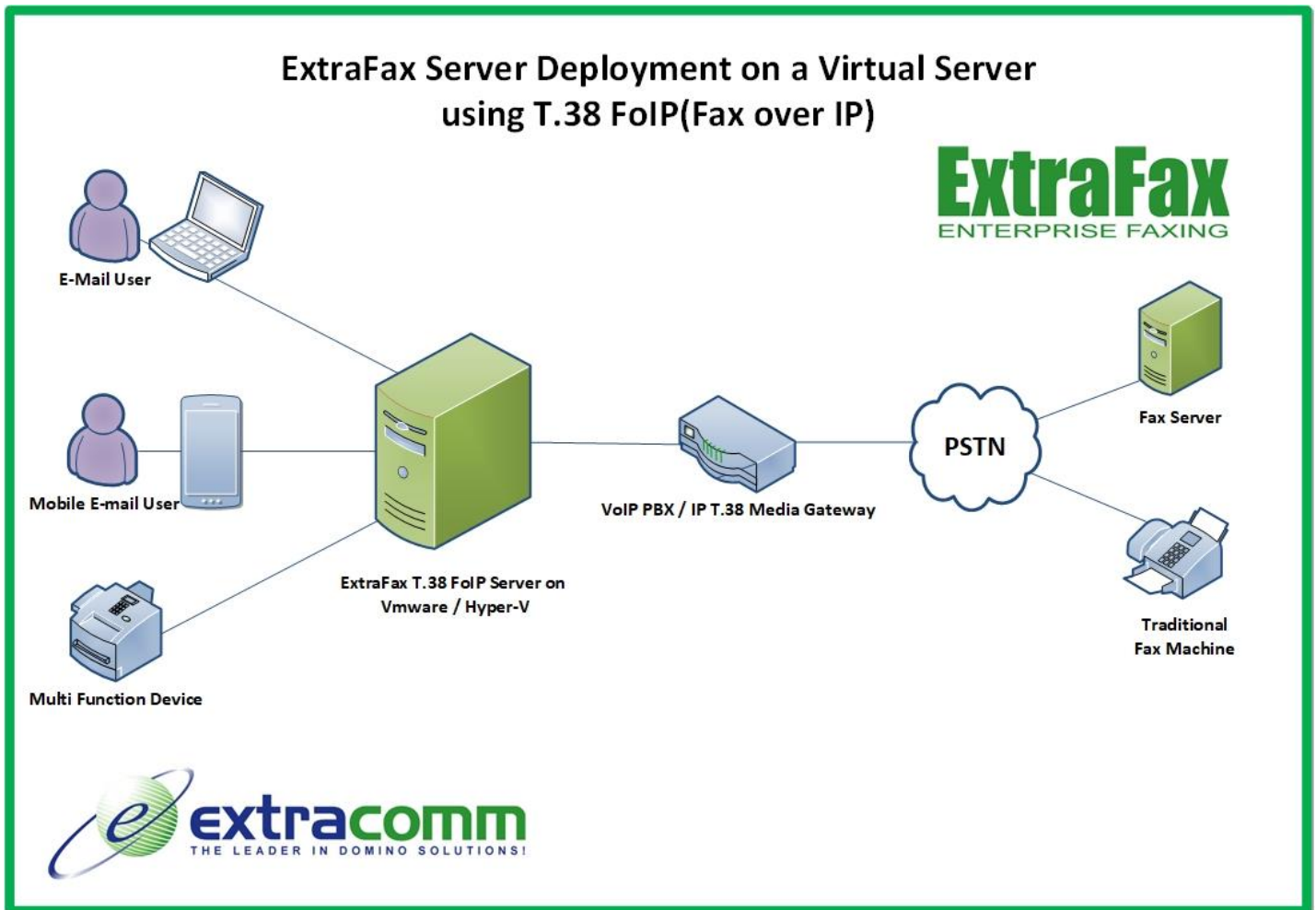
Scenario 2: 100% Virtualization of an ExtraFax server using T.38 FoIP(Fax over IP).

Switching from a ExtraFax implementation that uses a physical fax board(e.g. Enghouse® Brooktrout® TR1034) to an implementation that uses a software based FoIP host module such as the Enghouse® Brooktrout® SR140 is probably the easiest way to achieve 100% virtualization of your ExtraFax server. Since using the Enghouse® Brooktrout® SR140 eliminates the need to use a physical fax board in your server, you can now overcome the one major hurdle that was preventing you from virtualizing your Fax server to begin with.

Using the Enghouse® Brooktrout® SR140 does require the existence of a VoIP(Voice over IP) network or in its absence a IP Media Gateway. By leveraging a company's VoIP network to not only serve voice calls, but fax calls using T.38 protocol, allows companies to save additional costs and better leverage their investment into their VoIP implementation. ExtraFax along with the Enghouse® Brooktrout® SR140 supports a wide range of VoIP infrastructures including the industry leaders such as Cisco, Avaya, Alcatel and Enghouse Gateways. A complete list of supported VoIP implementations can be found at this link:

http://www.dialogic.com/en/interoperability/fax.aspx

Figure 2: ExtraFax T.38 FoIP server implementation in a 100% virtual server environment.
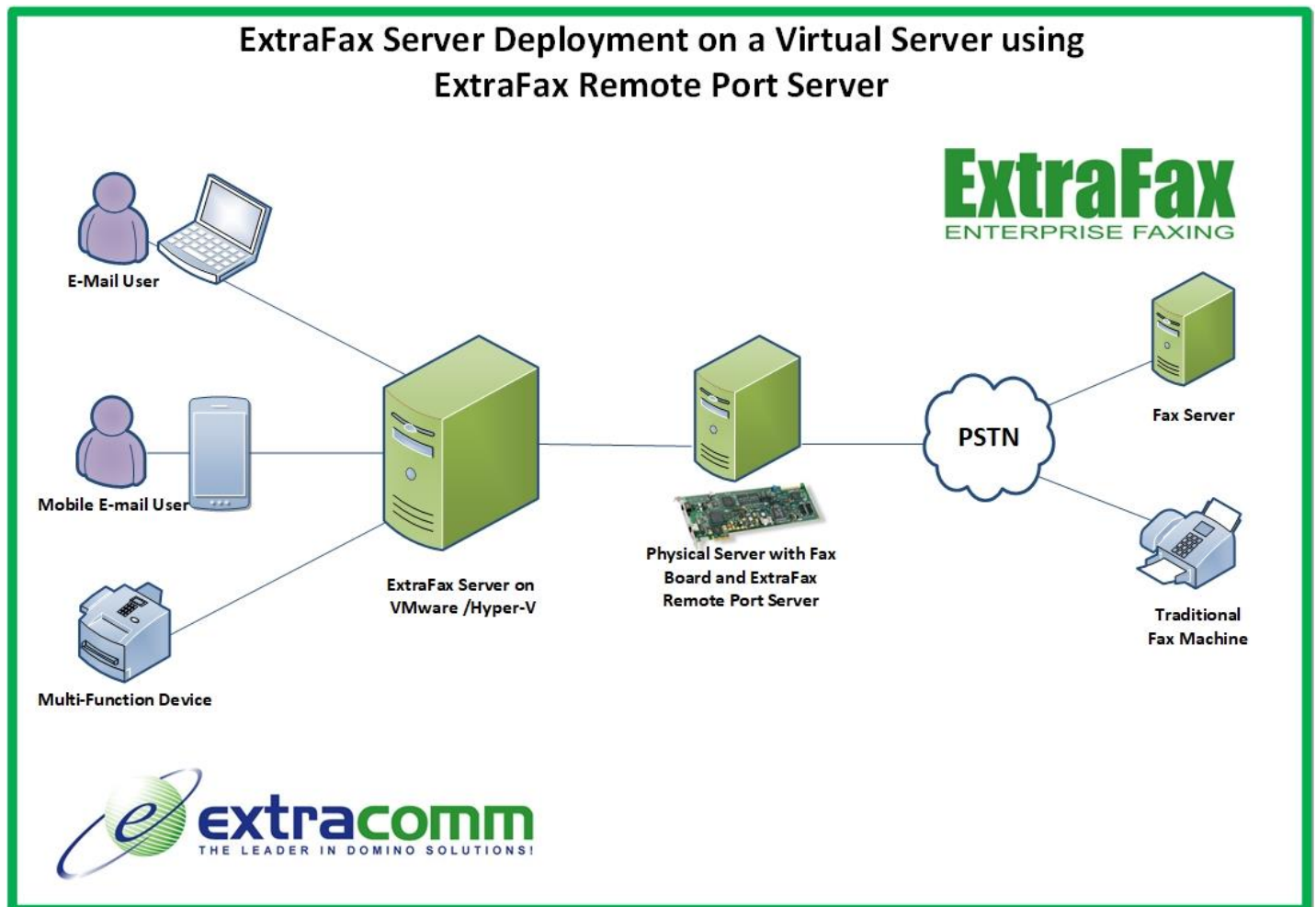
Scenario 3: Virtualization of ExtraFax using a fax board and ExtraFax Remote Port Server.

If your organization has previously implemented ExtraFax using a fax board, it is likely running a dedicated physical server that is also running HCL Lotus Domino. Your company has also likely invested thousands of dollars to purchase a fax board.(e.g. Enghouse® Brooktrout® TR1034). In the current economy, simply discarding expensive IT equipment such as a fax board is likely not your company's strategy. The company will likely want to use it as long as possible in order to maximize its ROI.

Though an implementation of ExtraFax that uses a fax board cannot be 100% virtualized, you can achieve some degree of virtualization of ExtraFax, while still protecting your investment in the original fax board purchase. Using the ExtraFax Remote Port Server will help meet this requirement. This virtualization approach of ExtraFax would involve:

1) Migrating the existing ExtraFax / HCL Lotus Domino server over to a server running VMware or Microsoft Hyper-V.
2) The fax board hardware that was originally installed in the physical server running ExtraFax would have to remain installed in a physical server. It cannot be installed in the virtual server hardware.
3) On the server where the fax board is installed, the ExtraFax Remote Port server software component will also need to be installed so that the fax board can communicate using TCPIP with the ExtraFax Server software on the virtual server.
4) ExtraFax running on the virtual server would then be configured to communicate using TCPIP with the fax board using the ExtraFax Remote Port server.

Figure 3: **ExtraFax server implementation in a virtual environment using a fax board and the ExtraFax Remote Port server.**

Scenario 4: 100% Virtualization of ExtraFax SMS-Text Messaging services using Network GSM Modem.

ExtraFax also includes an SMS-Text Messaging feature that many customers have chosen to deploy. In a physical server implementation of ExtraFax, The SMS-Text Messaging feature can use a GSM modem as a method of sending and receiving SMS-Text Messages. Similarly, to fax boards, GSM modems are not natively compatible when installed directly within virtual server hardware. This poses a problem for companies looking to virtualize their ExtraFax SMS-Text Messaging services.

Just as we described with ExtraFax's faxing feature, there are also ways that ExtraFax can be 100% virtualized while maintaining SMS Text Messaging services.

Option 1: Convert from using a standard serial/USB GSM modem to a network GSM modem e.g. Multitech iSMS network GSM modem. Unlike a standard GSM modem which connects to a physical server via Serial or USB port, a network GSM modem connects to the LAN, where it can be accessed using a TCPIP connection.

Figure 4: **ExtraFax server offering SMS-Text Messaging services using a network GSM modem in a virtual environment.**
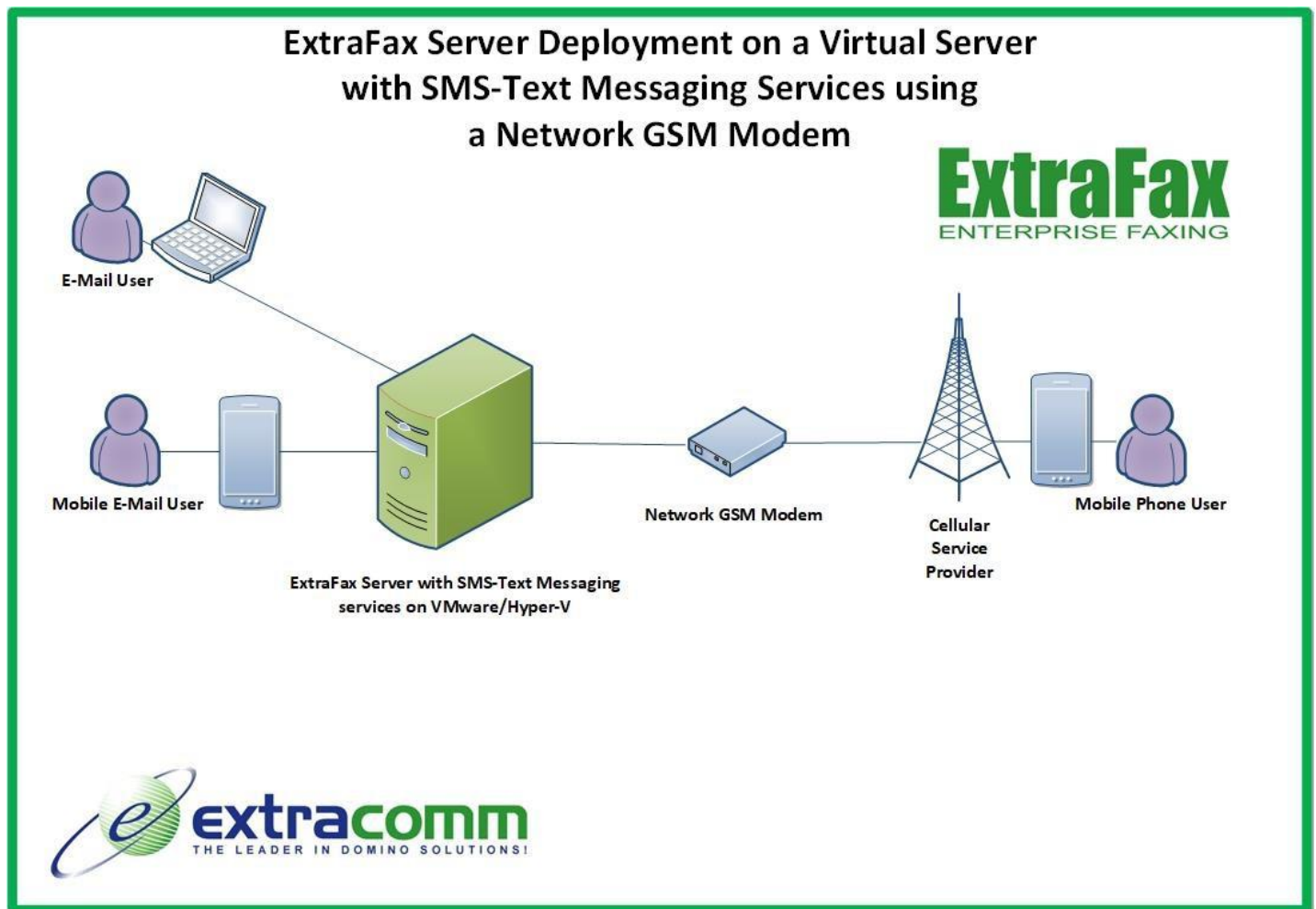
Option 2: For customers already using the SMS-Text Messaging feature of ExtraFax via an SMPP connection(SMPP is ideal for high volume text messages), transitioning the ExtraFax server to a virtual server will be a seamless process since SMPP does not have any physical hardware requirements in order to send SMS-Text Messages. With SMPP, all SMS-Text Messages are sent using a TCPIP and an Internet connection.

Figure 5: ExtraFax server offering SMS-Text Messaging services via SMPP in a virtual environment.
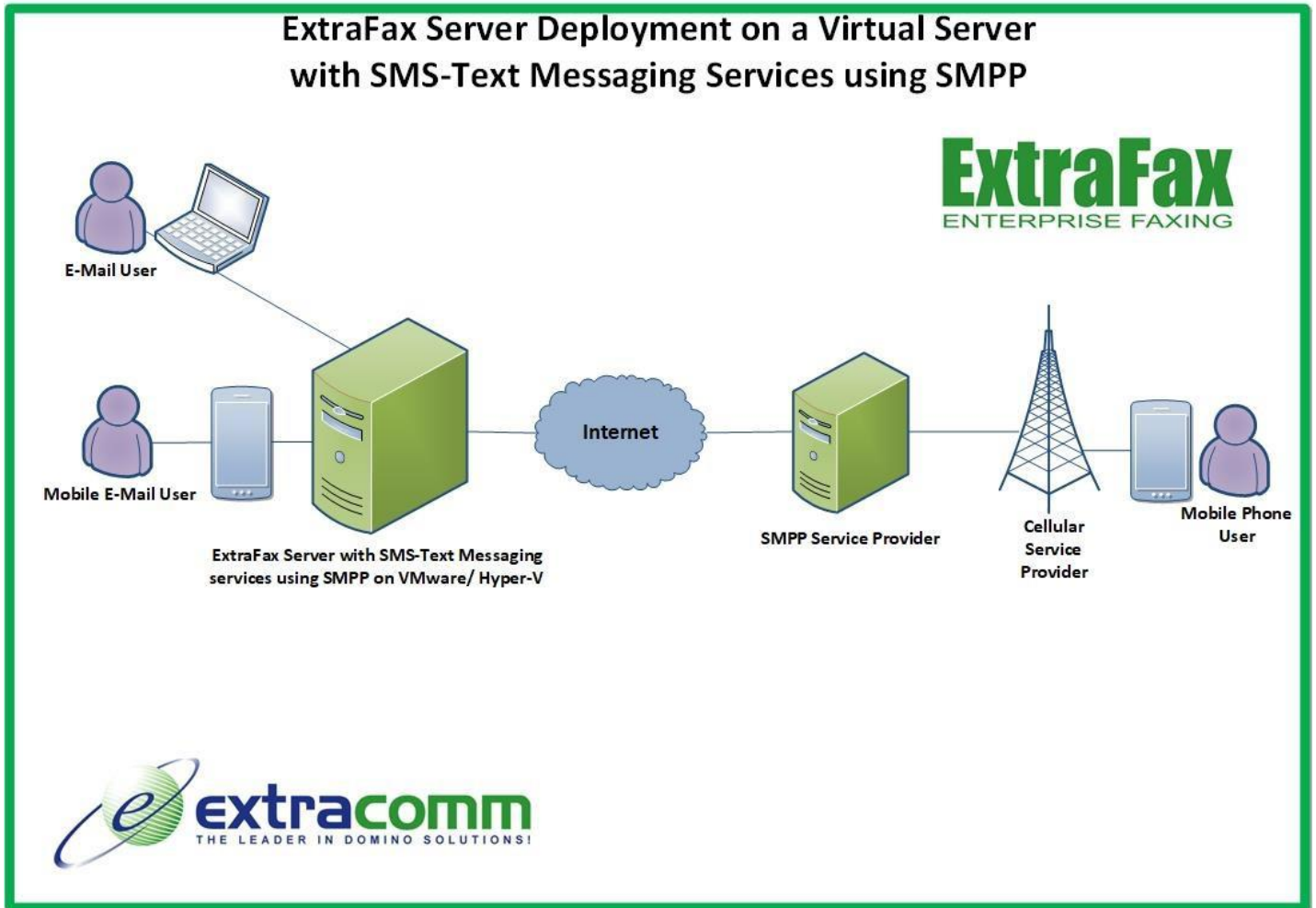
Scenario 5: Virtualization of ExtraFax SMS-Text Messaging services using ExtraFax Remote Port Server.

If your organization has previously implemented ExtraFax SMS-Text Messaging using a Serial/USB GSM modem, it is likely running a dedicated physical server that is also running HCL Lotus Domino.

Though an implementation of ExtraFax that uses a serial/USB GSM modem cannot be 100% virtualized, you can achieve some degree of virtualization of ExtraFax while continuing to use the serial/USB modem. This virtualization approach of ExtraFax would involve:

1) Migrating the existing ExtraFax / HCL Lotus Domino server over to a server running VMware or Microsoft Hyper-V.
2) The serial/USB GSM modem that was originally installed in the physical server running ExtraFax would have to remain installed in a physical server. It cannot be installed in the virtual server hardware.
3) On the server where the serial/USB GSM modem is installed, the ExtraFax Remote Port server software component will also need to be installed so that the serial/USB GSM modem can communicate using TCPIP with the ExtraFax Server software on the virtual server.
4) ExtraFax running on the virtual server would then be configured to communicate using TCPIP with the serial/USB GSM mode using the ExtraFax Remote Port server.

Figure 6: **ExtraFax server in a virtual environment using serial/USB GSM modem and the ExtraFax Remote Port Server.**
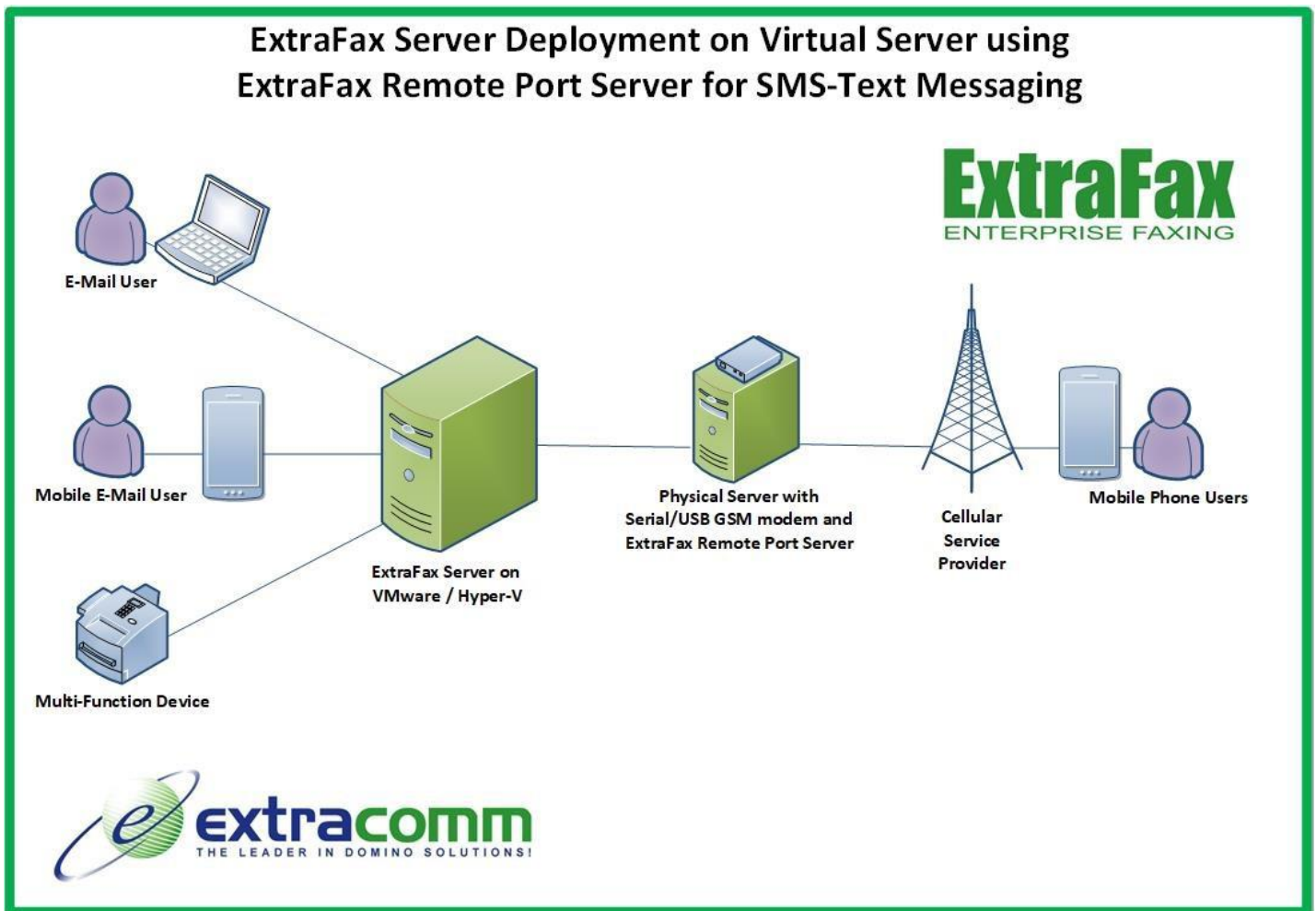
Summary:

In this quick reference guide, we reviewed the benefits why many organizations are choosing to virtualize their server environment. We also explored the feasibility of virtualizing an ExtraFax server implementation using FoIP to achieve complete 100% server virtualization. Using the ExtraFax Remote Port server to achieve virtualization of ExtraFax using a fax board in order to attain maximum ROI for the initial fax board investment was also reviewed. With the growing popularity of SMS-Text Messaging, we also looked at using ExtraFax's SMS-Text Messaging services as well in a virtualized server environment.

If you would like more in-depth technical information or wish to learn more about ExtraFax or other Extracomm products, please visit our web site: http://www.extracomm.com

Extracomm Inc.

1730 McPherson Court Unit 6

Pickering, Ontario

Canada, L1W 3E6

Tel: 905-709-8602

Fax: 905-709-8604

http://www.extracomm.com

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