

# ZYNSTRA TECHNICAL BRIEFING NOTE

## *Backing Up Zynstra IaaS Virtual Machines*



### Introduction

Zynstra's Cloud Managed Server Appliances include the capability for Service Delivery Partners and/or customers to install and execute their Line-of-Business applications through what are commonly referred to as Zynstra Infrastructure-as-a-Service (IaaS) Virtual Machines (VMs). The applications that can be installed in these VMs are commonly referred to as Partner (or Customer) Managed Applications.

The operating system (OS) on the C: drive associated with each Virtual Machine is backed up automatically once each week provided that they have been installed on the correct drive within the VM (see below). The customer data associated with these Virtual Machines and managed by the installed applications can be backed up locally on the appliance and to the Cloud (if the customer has purchased the Cloud Backup and Disaster Recovery option and has sufficient upload bandwidth to facilitate this Cloud Backup) although several important steps must be taken by the Partner or Customer to ensure that this backup takes place.

### Drives and Folders

There are three drives/folders associated with each IaaS VM that need to be considered in the content of the local and Cloud backup capabilities of each appliance:

- **C:** on which the OS is installed. 3rd party customer software can also be installed on the C: drive as long as there is sufficient free space to allow headroom for the OS, patches and future Zynstra software – there should be at least 4Gb free on this drive at all times.
- **D:** on which the customer's live dataset should be stored if that dataset is a single object/file or a small number of large objects/files between which there may be inter-dependencies. The most common example of this is a SQL database. If the 3<sup>rd</sup> party software the customer is installing is too large for the C: drive, then it can be installed on the D: drive. However, in this case the software itself will not be backed up – the install media for the software, and any install instructions, should be backed up separately. The E: drive can be used for this purpose.
- **E:\Backup\System** in which the live dataset being managed on D: should be placed so that it can be backed up by Zynstra.
- **E:\Backup\Docs** in which the customer's live dataset should be stored if that dataset comprises a large number of objects/files and where there are no dependencies between the individual objects/files that require groups of files to be backed up together, regardless



of whether all of the objects/files in that group have changed since the last backup. The most common examples of this are (a) a fileshare comprising a hierarchy of folders with numerous files within the folders, and (b) a database that is managed simply as a number of distinct files. If the customer's dataset comprises a large number of objects/files of this kind, it will be backed up automatically from this folder in accordance with the regime described below with no need for copying or some or all of the objects/files in the dataset to a separate location.

### **Drive Based Backup Policy**

**C: Drive Backup Regime.** The C: drive containing the OS and possibly some 3<sup>rd</sup> party customer software (if sufficiently small in size) is subjected to an image backup automatically once each week on the fourth day of a weekly backup schedule commencing at 23:00 in the time zone in which the appliance is located. This is a 'snapshot' backup. Currently it requires the VM to be shut down very briefly whilst the snapshot is taken, leading to a very short period of non-availability of the application(s) in question.

**E:\Backup\System Backup Regime.** The D: drive is not backed up at all as it contains the customer's live dataset if that dataset is a single large object/file or a small number of objects/files between which there may be inter-dependencies. For this dataset to be backed up, it must be appropriately copied, or exported (for example if the D: drive contains a SQL DB, a flat file copy while the database is online will not provide a consistent copy – the built-in SQL export utility would typically be used) to the E:\Backup\System folder which is backed up daily (both locally and, if purchased, to the Cloud) commencing at or soon after 23:00 in the time zone in which the appliance is located. It should be noted therefore that previously copied datasets in this folder should be deleted prior to placing an updated dataset in the folder in readiness for the backup as the entire contents of the folder will be backed up, regardless of the number of datasets placed in it. It is recommended that the regular copy of such datasets to the E:\Backup\System folder is achieved through a script that the Partner or Customer will need to create and maintain.

**E:\Backup\Docs Backup Regime.** This folder is backed up in full once a week commencing on the fifth day of a weekly backup schedule at or soon after 23:00 in the time zone in which the appliance is located and incrementally each night (that is, only files that have changed since the previous night are backed up) commencing at or soon after 23:00 in the time zone in which the appliance is located.

### **Further Information**

If you are responsible for managing the deployment of a Partner (or Customer) Managed Application into a Zynstra IaaS VM and would like more information about the use of IaaS VMs or about the above backup regimes, please contact the Zynstra Support Team for assistance.

