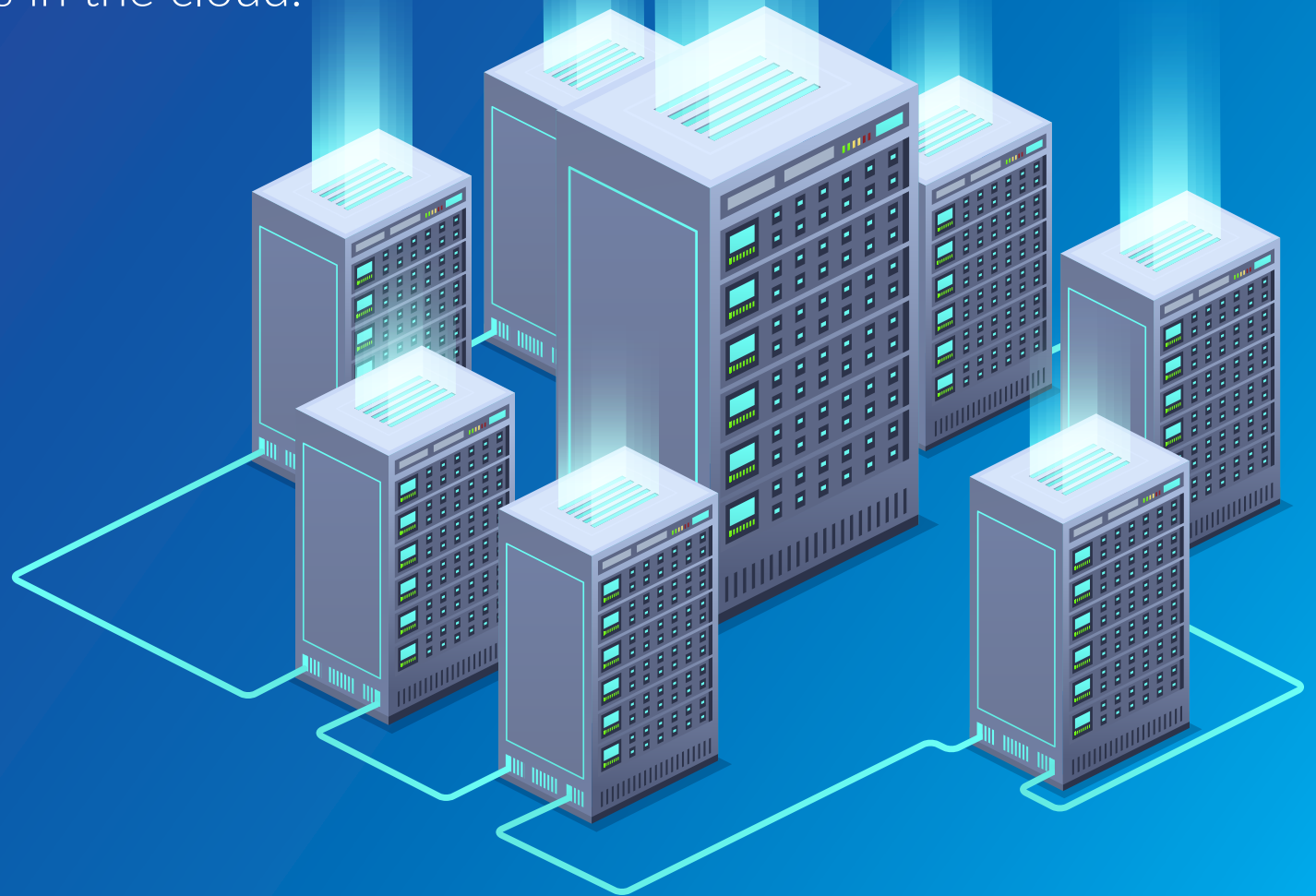


SERVERware 3.2 DATASHEET

SERVERware 3.2 datasheet contains a comprehensive list of features and their detailed description, as well as a comparison of the standalone, mirror, and server editions of SERVERware.

VIRTUALIZATION PLATFORM

dedicated to hosting telephony
& unified communications in the cloud.



SERVERware Editions

STANDALONE EDITION

The Standalone edition allows users to install SERVERware 3 on a single server. Given that the VPS processing power and data storage are served by only one server, this edition does not provide high availability of hosted services.




MIRROR EDITION

The Mirror edition introduces an additional layer to data protection. In order to provide high availability of hosted services, it requires two identical servers (primary/secondary) that are connected back-to-back. The data between these servers is synced in real time (from primary to secondary). In terms of VPS processing power, the Mirror Edition is similar to the Standalone Edition given that the virtual servers may run only on the primary server.




CLUSTER EDITION

The Cluster Edition is similar to the Mirror Edition with an additional possibility to increase the VPS processing power by adding more hosts. Although it is still possible to run virtual servers on the mirror edition, it is not recommended given that the primary function of the mirrored pair of servers in the Cluster Edition is to provide fault-tolerant storage to a number of processing hosts. VPS running on the processing hosts store their data on the storage server. In order to completely offload the VPS processing from the mirrored pair and use it just for storage, during an upgrade from the mirror to the cluster edition one has to provide two or more additional hosts dedicated for VPS processing during an upgrade from the Mirror to the Cluster Edition.







FAULT TOLERANCE

	Standalone	Mirror	Cluster
Fault Tolerance SERVERware storage component consists of two identical servers (active-standby) connected back-to-back providing a storage service for virtual servers running on the processing servers along SERVERware network. SERVERware fault tolerance feature relies on redundant components within the storage system itself. Should the active storage server fail, the standby server will automatically take over the role of storage serving. There is no disruption of storage services looking from the view of processing hosts as well as virtual servers running on them.			

HIGH AVAILABILITY

	Standalone	Mirror	Cluster
High Availability Given that all virtual servers data is stored on the fault tolerant storage component, virtual servers can be easily moved to any processing host and continue running by using most recent data. Relying on this design, should a processing host fail, SERVERware controller will automatically distribute and start failed virtual servers on the remaining available hosts within the SERVERware network. In this way SERVERware provides high availability of the hosted virtual servers without data loss.			

























SCALABILITY

	Standalone	Mirror	Cluster
Storage Scalability Given that SERVERware storage is based on the OpenZFS, it allows us to easily extend the storage pool size by adding more drives into the storage hosts.			
Processing Scalability Extending processing power of the SERVERware network is as simple as adding more processing hosts.			

WEB CONTROL PANEL

	Standalone	Mirror	Cluster
System Dashboard Dashboard section is a visual display of the most important performance indicators of a SERVERware network. It provides information about the total number of virtual servers as well as how many of them are running. Also, there is an indicator of the total number of active calls on the entire SERVERware network. Given that the storage server is a crucial component of a SERVERware network CPU, memory and storage usage indicators reflect status of storage server itself. There are also logs of recent activity on the system as well as a list of triggered alarms.	✓	✓	✓
Dashboard to display Host local storage allocation Dashboard "LOCAL STORAGE" will display local storage allocation for the processing hosts with local storage.	✓	✓	✓
Secure Access For Support Passwordless and secure access to certified Bicom Systems support. Simplifies firewall management, opening only incoming access to the controller SSH access port. <ul style="list-style-type: none">• Control when, on what port, and for how long the access is open.• Monitor active sessions and audit log.	✓	✓	✓
Dashboard MOST ACTIVE VPS Chart This will help an administrator to quickly identify a VPS that generates a high I/O load.	✓	✓	✓
Host Management A host is actually a physical 64-bit server running a special build of Gentoo Linux, with the packages required to host virtual servers. There are three types of hosts based on their purpose: STORAGE, PROCESSING and BACKUP. Host Management view allows you to add, edit and remove SERVERware 3 hosts, as well as to perform management tasks on available hosts. In addition, performance indicators are displaying current host load and health of each host for a better overview of the resource status.	✗	✓	✓

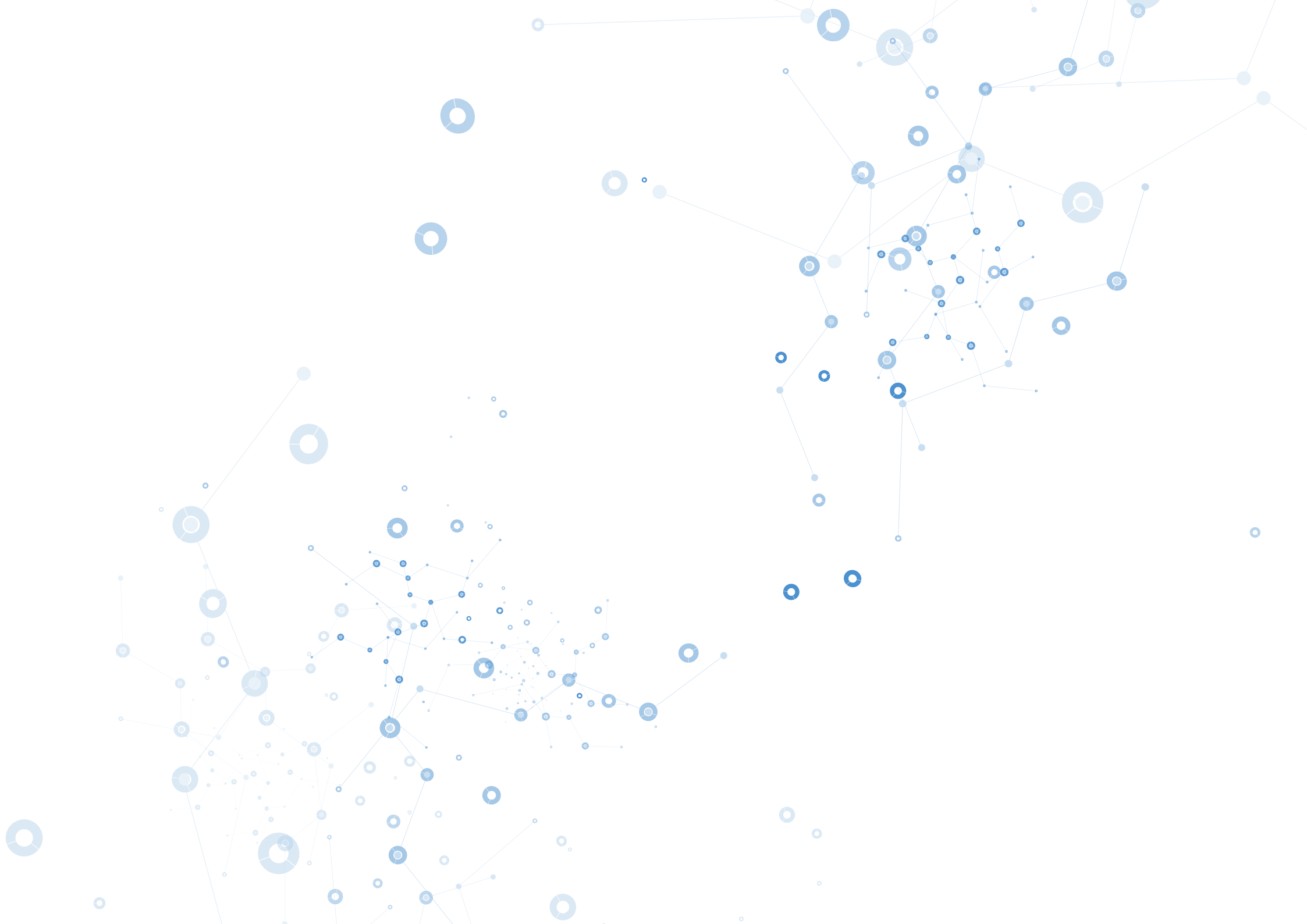
	Standalone	Mirror	Cluster
Domain Management Domains are logical groups of physical resources, users and virtual servers. The main purpose of a domain is to define the administrative boundaries for management of virtual private servers. A domain can represent an individual, department or a company. Domain Management view allows you to add a new domain as well as to perform some management tasks on individual domains. For each domain you are able to define a resource quota in terms of domain members, virtual servers, RAM memory and storage space. Also, there are visual indicators showing current domain quota utilization for each domain. Each domain can be assigned a domain administrator as well as a range of IP addresses for the purpose of VPS networking.	✓	✓	✓
VPS Management VPS Management view allows you to create a new VPS as well as to edit existing VPS configurations. When creating/editing a VPS there are options to select a processing host, domain that VPS belong to, a resource flavor in terms of CPU, memory and storage allocation as well as an IP address from a predefined domain IP address pool. The following VPS management actions are supported: Start, Stop, Freeze, Copy (make a new VPS using the data of an existing one), Move (migrating a VPS between processing hosts), and Restore (recreate from a backup).	✓	✓	✓
Backup legacy SERVERware provide a built-in backup feature as a solution for VPS data recovery in case of a system failure, user or application errors. There are two backup types that can be configured: Full and Full/Incremental. Also, backup can be configured to include all VPSs or per individual domain. There is a possibility to select the destination server as well as a backup retention.	✓	✓	✓
Backup To ZFS SERVERware new built-in backup feature "BACKUP to ZFS" is a modern solution for VPS data recovery in case of system failure, user or application errors. ZFS backup is an incremental backup for SERVERware based on "ZFS send", this means less storage usage than legacy backup and less of an impact to system performance overall I/O, CPU usage"	✓	✓	✓
Statistics SERVERware statistics module collects data about the resource usage by Hosts and VPSes. Data on a wide range of metrics is collected at frequent intervals, processed and archived in the database to be displayed and inspected through GUI. The performance charts graphically display CPU, memory, network, and concurrent calls metrics for Hosts and VPSes managed by SERVERware. You are able to select a period for which you want to display charts as well as to compare performance charts between hosts or VPSes.	✓	✓	✓

	Standalone	Mirror	Cluster
Alarms In order to be alerted when something goes wrong, or, ideally, before something goes wrong SERVERware provides a built-in alerting or notification system called Alarms. System monitoring module continuously monitors physical as well as virtual resources in order to trigger an alarm and send a notification. Alarms can be configured to tell you when specific conditions or states occur within the SERVERware network.			
VPS Template Management Template management section allows you to download and update VPS templates easily. PBXware 4.x, PBXware 5.x, TELCOware, sipMON, Gentoo and Ubuntu are the available templates at the moment.			
Improved VPS template management interface A redesign of the template management interface is much more intuitive and simpler to use. It immediately shows available updates, without the need to visit the template catalog view.			
Flavor list to show a number of instances using it The number of instances using a specific flavor is displayed next to the flavor and it's displayed as a decimal number.			
User Management There are two types of users: System Administrators and Domain Members. System Administrators have all permissions on the system while Domain Members have the assigned role permissions on a domain which they are a member of. Domain Members are further divided to Domain Administrator, VPS Administrator and VPS Owners with each of them assigned a different permissions level.			
sipPROT Management Integrated sipPROT GUI allows you to manage sipPROT configuration as well as White/Black lists for all hosts within the SERVERware network and Dynamic Blacklist.			
VPS Advanced Options Added feature to Exclude VPS From Backup , and Enable Protected Mode for VPS. A VPS Protected by the system admin cannot be stopped if already running or started if stopped as well as edited or removed by domain members.			
VPS Restart Option VPS can now be restarted.			

	Standalone	Mirror	Cluster
Manage Individual Notification when Adding/Editing a User Alarms and Events can be managed in GUI for every user on the system.	✓	✓	✓
Templates Download Queue When downloading SERVERware templates, if the user selects multiple templates for download, SERVERware will start downloading the first one and put others into a queue.	✓	✓	✓
Clone VPS action Network address field for cloned VPS in GUI, this way VPS can be started immediately after cloning is finished.	✓	✓	✓
IOPS limit VPS resource limitation in terms of IOPS is available through the resource tab of the VPS Add/Edit dialog as shown in the screenshot. The default values for IOPS limit are inherited from the selected resource flavor.	✓	✓	✓
Centralized system logs Every processing host in the cluster will make a local log and send the log via TCP to the storage server. <ul style="list-style-type: none"> • Useful when you need to check logs from the processing host even if the host is down. • It's also easier to review recent logs on each host in the cluster from one place. 	✓	✓	✓
COMMAND LINE INTERFACE			
Console In addition to SERVERware management options in GUI, there is a basic set of actions that can be performed from shell such as: starting and stoping a VPS as well as accessing its shell.	✓	✓	✓
REPORTS			
System Logs System logs page displays information on SERVERware events and allows you to track down and debug a number of issues.	✓	✓	✓

	Standalone	Mirror	Cluster
Audit Log Action logs page displays information about actions performed by a specific user in order to provide information on changes that were made in the SERVERware GUI. In order to make this feature as useful as possible it is strongly advised to create separate accounts for each administrator.	✓	✓	✓
Notification System Notification system relies on two notification delivery methods: SMTP (E-mail) and XMPP (gloCOM) in order to send out system notifications. Please note that both delivery methods require additional SERVERware setup in order to be fully functional.	✓	✓	✓
INSTALL & SETUP WIZARD			
	Standalone	Mirror	Cluster
Install & Setup SERVERware 3 can be installed from both DVD or a USB drive via a simple installation wizard which will guide you through the installation one step at a time.	✓	✓	✓
SERVERware 3 Recommended Servers For recommended hardware requirements please visit: https://wiki.bicomsystems.com/SERVERware_3_Recommended_Servers	✓	✓	✓
Installation of SERVERware Backup Server The "SERVERware Backup Host" option is now available for setting up a backup server in the install wizard, and it will let a user configure disk array during the installation.	✓	✓	✓
Setup Restore Feature In such cases where a user is reinstalling the storage/controller server which had previous setup completed, the install wizard will detect the previous setup and offer the restore option to the user.	✓	✓	✓
Storage Hot Spare Disk Setup of hot spare disks in a storage pool - the storage pool will be monitored and a failed disk automatically replaced with a spare one, per server.	✓	✓	✓

	Standalone	Mirror	Cluster
Default IP Pool Range for VPS Wizard will require a user to specify the initial IP pool and pass this to the CONTROLLER as part of the initial startup configuration. As a consequence, SERVERware 3 will be ready to create VPSs which can be used immediately after setup completion.	✓	✓	✓
Allow Choice of IP Address for Second Servers SAN & RAN SAN/RAN IP of secondary server is automatically selected, visible and now can be changed if necessary.	✓	✓	✓
Timezone setup Setup wizard time zone setup is an easy way for the user to select the correct time zone from the displayed graphical world map. The time zone list now includes more aliases for the time zones, simplifying selection.	✓	✓	✓
Storage pool info When the HDD must be replaced, the user can indicate which HDD is faulty by looking at the serial number in the setup wizard disk array. <ul style="list-style-type: none"> • Display pool topology. • Drive serial number, size, and type. • iSCSI connection. • Read, write and checksum errors 	✓	✓	✓
INSTALL & SETUP WIZARD			
	Standalone	Mirror	Cluster
3.1.2 Update Previous SERVERware versions will not be able to upgrade to next 3.2.0 version without upgrading to 3.1.2 first.	✓	✓	✓



BACKUP YOUR DATA

SERVERware's built-in backup functionality provides an easy way to additionally protect hosted services.



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