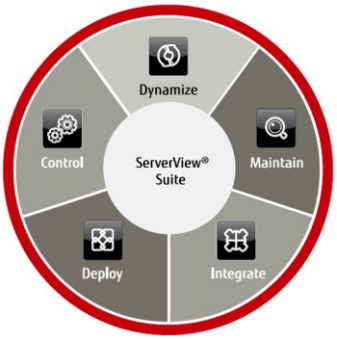
Datasheet
FUJITSU Software ServerView Resource Orchestrator V3.2 DR Option

Protect the continuity of IT services with automated disaster recovery operations

Enterprises today are facing a number of external and internal risks that endanger their business operations. Besides the recently increasing occurrence of natural disasters like earthquakes, hurricanes and tornados, there is also danger from system failures, human error or terrorism. In a world where businesses increasingly rely on IT, long period of downtime significantly impact revenue or lead to a decrease in customer confidence and satisfaction. In some cases the loss of a complete data center location can even force enterprises into bankruptcy. Therefore, organizations need to be prepared and take counter measures to avoid damage from disasters. These counter measures should not only cover data but the entire IT infrastructure.



ServerView Resource Orchestrator Cloud Edition DR option ('DR option') is a separately licensed option available with the ServerView Resource Orchestrator Cloud Edition. It enables IT organizations to implement efficient disaster recovery configurations according to their business needs. In order to achieve fast recovery the DR options applies maximum automation to all tasks involved in the recovery process. As a result, recovery time can be reduced from days to hours.

Main features	Benefits
■ Automation of recovery processes	■ Reduces effort and operational mistakes during a disaster resulting in significant shorter recovery times
■ Defined scope of resources required for switch-over to the backup site	■ Run backup site with fewer resources; reduce costs
■ Tenant-specific switch-over	■ IT organizations can offer tenant-specific service-levels
■ Physical server and multi-hypervisor (VMware and Hyper-V) support	■ Offers customers the choice to select the most cost-efficient platform according to their application needs
■ Active-active or active-standby configuration	■ Delivers a high level of business continuity by further reducing downtime
■ Simulation of disaster recovery process.	■ Enables testing of recovery plans to ensure a working recovery process in case of a disaster

Topics

Positioning

Disaster Recovery (DR) is an operation that restores ICT resources and applications according to an enterprise's Business Contingency Plan (BCP). A BCP is the outcome of a holistic Business Continuity Management (BCM)[1] process that identifies potential threats to an organization and the impacts to business operations. Often the main causes for data centre failure are natural disasters, software corruption, hardware failures, viruses or even human error. Some of these threats can be avoided by implementing local on-site high-availability measures; however in many cases these local measures are not sufficient enough and require an additional remote backup site.

Challenges

Manually restoring a complete ICT stack (hardware, virtualization software and applications) following a disaster involves a lot of admin effort, can be error-prone and time consuming. Moreover, it is uncertain that people who have the appropriate skills are available to be present at the disaster site.

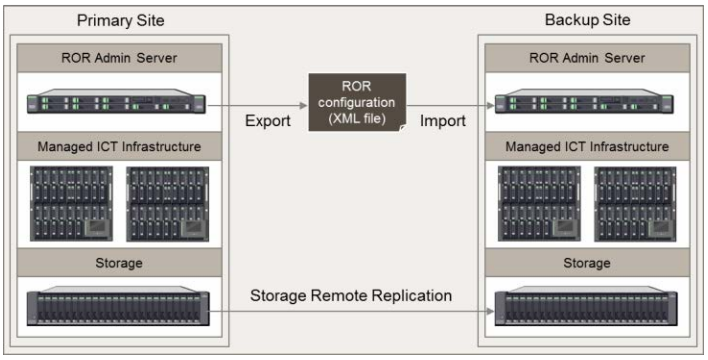
Reduce recovery from days to hours

The ROR DR Option automates many of the administrative tasks involved in moving ICT resources to the backup site. For all ICT resources that should be DR protected, ROR regularly saves the configuration information in an xml-file. If a disaster occurs the information from the xml-file can be imported by the ROR manager to restore the configuration.
In combination with remote storage replication technology it is now possible to reduce recovery times from days to just a few hours.

Replication of storage is done in cooperation with 3rd-party software that controls the storage devices. The following storage software is supported.

- ETERNUS SF AdvancedCopy Manager Copy Control Module (for ETERNUS DX series)
- SnapMirror (for NetApp, Fujitsu ETERNUS NR1000F)[2]
- NaviSphere (for EMC CLARiiON)
- Solution enabler (for EMC Symmetrix)

Please refer to the ROR support matrix for details.



In many cases not all systems need to be DR protected. For that reason, it is necessary to define upfront in a Disaster Recovery Plan which ICT resources should be protected and moved to the backup site. The ROR DR option enables IT administrators to limit the range of ICT resources that are supported by the backup site to selected tenants, dedicated physical or virtual servers.

The ROR DR Option supports the following DR configurations:

- Active – Active
  Both sites, primary and backup, are running active production environments. The configurations of both environments will be merged if a failover occurs
- Active – Standby
  An idle or a test environment is running on the backup (standby) site. During failover any idle or test environment running on the backup site is shut down and completely replaced by the primary (active) site environment

1) For details, please see ISO 22301 Business Continuity Management standard and NIST Special Publications SP 800-34 "Contingency Planning Guide for Federal Information Systems"
2) ETERNUS NR100F is for Japan market only.

Technical details

Admin Client		
Hardware		FUJITSU PRIMERGY RX, BX and TX server or PC
Operating Systems	**Microsoft**	Microsoft Windows Server 2012, 2012 R2 SE/DCE Microsoft Windows Server 2008 R2 SE/EE/DCE SP1 or later Microsoft Windows Server 2008 SE/EE (x86, x64) Microsoft Windows 8.1 Pro, Enterprise Microsoft Windows 7 Professional, Enterprise, Ultimate Microsoft Windows 10 Pro, Enterprise
Other software prerequisites		Microsoft Internet Explorer 8, 9, 10, 11, Firefox ESR17/ESR24/ESR31/ESR 38 Java 2 runtime environment 1.5 or later Adobe Flash Player 10.3.183.5 or later

Admin Server		
Hardware		FUJITSU PRIMERGY RX, BX and TX server
	Notes	At least dual core CPU and 12 GB of memory; 7.6 GB free disk space or more
Operating Systems	**Microsoft**	Microsoft Windows Server 2012, 2012 R2 SE/DCE [1,6] Microsoft Windows Server 2008 R2 SE/EE/DCE [1,6] Microsoft Hyper-V on Windows Server 2012 R2 SE/DCE [6] Microsoft Hyper-V on Windows Server 2012 SE/DCE [6] Microsoft Hyper-V on Windows Server 2008 R2 SE/EE/DCE [6]
	Red Hat	Red Hat Enterprise Linux 6.2, 6.3, 6.4, 6.5, 6.6, 6.7 (x64) [6]
	VMware	VMware vSphere 6.0 ESXi [6] VMware vSphere 5.0, 5.1, 5.5 ESXi [6]
	Notes	When running the admin server on a hypervisor product, installation is only supported in a VM guest running one of the operating systems listed above. For admin server high-availability, only installation on a Hyper-V cluster configuration is supported
Other software prerequisites		FUJITSU ServerView Operations Manager (Windows) V5.50 or later
Software options	**Server Management**	FUJITSU ServerView Virtual-IO Manager (VIOM) 3.0 or later (for VIOM based I/O virtualization) FUJITSU ServerView Resource Coordinator VE I/O Virtualization Option when using HBA Address Rename Service for I/O Virtualization
	Hypervisor Management	VMware vCenter Server 5.x, 6.0 VMware vCenter Server Appliance 6.0 Microsoft System Center Virtual Machine Manager 2008 R2, 2012, 2012 R2 Oracle VM Manager 3.2.2, 3.2.3, 3.2.4, 3.2.6, 3.2.7, 3.2.8
	Storage Management	FUJITSU ETERNUS SF Storage Cruiser 14.2, 15.0, 15.1, 15.2, 16.0, 16.1, 16.2 [10] FUJITSU ETERNUS multipath driver V2.0L10 (for Windows), V2.0L02 (for RHEL)[10] NaviSphere Manager 6.29, NavisecCLI 7.30-7.33.8 [10] EMC Solution Enabler 7.1.2, 7.3, 7.4.0, 7.5.1, 7.6.1, 7.6.2(for EMC Symmetrix, Fibre Channel connectivity on server is mandatory)[10] EMC PowerPath 5.3 [10] NetApp Data ONTAP DSM 3.2R1[10]

Managed Servers		
Hardware	**FUJITSU PRIMERGY BX**	BX900: BX920 S1/S2/S3/S4[17], BX922 S2, BX924 S2/S3/S4[17], BX960 S1, BX2560 M1, BX2580 M1 BX600: BX620 S4/S5/S6 BX400: BX920 S2/S3/S4[17], BX922 S2, BX924 S2/S3/S4[17] BX2560 M1, BX2580 M1
	FUJITSU PRIMERGY RX	RX100 S5/S6, RX200 S4/S5/S6/S7/S8, RX300 S4/S5/S6/S7/S8, RX500 S7 RX600 S4/S5/S6, RX2520 M1, RX2530 M1 (VMware vSphere support only), RX2540 M1 (VMware vSphere support only), RX4770 M1 [9]
	FUJITSU PRIMERGY CX	CX210 S1, CX250 S1/S2, CX270 S1/S2
Operating Systems	**Microsoft**	Microsoft Windows Server 2012, 2012 R2 SE/DCE [1,8] Microsoft Windows Server 2008 R2 SE/EE/DCE [1,8] SP1 or later Microsoft Windows Server 2008 SE/EE (x86, x64) [1,8] Microsoft Hyper-V on Windows Server 2012 R2 SE/DCE [4,8] Microsoft Hyper-V on Windows Server 2012 SE/DCE [4,8] Microsoft Hyper-V on Windows Server 2008 R2 EE/DCE [4,8]
	Red Hat	Red Hat Enterprise Linux 7.0 (x64) Red Hat Enterprise Linux 6.2, 6.3, 6.4, 6.5, 6.6 incl. KVM (x86, x64) [8]
	Oracle	Oracle VM 3.2.2, 3.2.3, 3.2.4, 3.2.6, 3.2.7, 3.2.8 (x86, x64) [8] Solaris 11 and Solaris 11 Oracle VM for SPARC Enterprise Servers Solaris 10 and Solaris 10 zones for SPARC Enterprise Servers
	VMware	VMware vSphere 6.0 ESXi [3,4,5,8] VMware vSphere 5.0, 5.1, 5.5 ESXi [3,4,5,8]
	Citrix	XenServer 6.0, 6.1, 6.2 [3,4,8]
Other software prerequisites		FUJITSU ServerView agent (Windows/Hyper-V) V4.50.05 or later FUJITSU ServerView agent (Linux) V4.90.14 or later FUJITSU ServerView agent (VMware) V4.30.20 or later Network Management: IntelPROset 15.5.56.0 [10] Linux bonding of Red Hat Enterprise Linux 6 or Novell SUSE Linux Enterprise Server 11 SP2 [10] Emulex OneCommand NIC Teaming and VLAN Manager V2.7 Windows Server 2012 NIC Teaming (LBFO)

HBA Address Rename Server		(Same as ServerView Resource Orchestrator V3.2 Cloud Edition)
Hardware		FUJITSU PRIMERGY RX, BX and TX server or PC
Operating Systems	Microsoft	Microsoft Windows Server 2012, 2012 R2 SE/DCE [1,6] Microsoft Windows Server 2008 R2 SE/EE/DCE [1,6,10] Microsoft Windows Server 2008 SE/EE (x86, x64) [1,6] Microsoft Hyper-V on Windows Server 2012 R2 SE/DCE [6] Microsoft Hyper-V on Windows Server 2012 [6] Microsoft Hyper-V on Windows Server 2008 R2 SE/EE/DCE [6] Microsoft Hyper-V on Windows Server 2008 SE/EE(x64) [6] Microsoft Windows 8.1 Pro, Enterprise Microsoft Windows 7 Professional, Ultimate, Enterprise [6]
	Red Hat	Red Hat Enterprise Linux 6.0, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6 (x86, x64) [6]
	VMware	VMware vSphere 5.0, 5.1, 5.5 ESXi [6]

Other Hardware Requirements – FC Connectivity		(Same as ServerView Resource Orchestrator V3.2 Cloud Edition)
FC Connectivity HBA	FUJITSU PRIMERGY BX600	FC Module 2 port (4 Gbps): BX600-FC42E
	FUJITSU PRIMERGY BX900	FC Module 2 port (8 Gbps): Emulex MC-FC82E
	FUJITSU PRIMERGY RX/TX	FC Ctrl Emulex LPe1150/LPe1150L MMF LC LP (4Gbps) FC Ctrl Emulex LPe1250 MMF LC (8Gbps) FC Ctrl 2 port Emulex LPe12002 MMF LC (8Gbps)
	FUJITSU SPARC ENTERPRISE	LPe12000, LPe12002, QLE2560, QLE2562, SE0X7F11F, SE0X7F12F
	Notes	When using HBA Address Rename Service the I/O virtualization (FC) option is required for SAN boot.
FC Connectivity Switch	FUJITSU PRIMERGY BX400	FC Pass-Thru blade 8Gbps 18/18 FC Switch 8Gbps 18/8 (Brocade BR5450)
	FUJITSU PRIMERGY BX600	FC Pass-Thru blade 4Gbps 10/10 FC Switch 4Gbps 10/6 (Brocade SW-4016 D4)
	FUJITSU PRIMERGY BX900	FC Pass-Thru blade 8Gbps 18/18 FC Switch 8Gbps 18/8 (Brocade BR5450)
	External FC switches	External FC switches supported in FUJITSU ETERNUS environments: FUJITSU ETERNUS SN200 series and Brocade series
	Notes	When using FUJITSU ServerView Virtual-IO Manager software for I/O virtualization (BX only), the BX FC switch must be set to FC Access Gateway mode. The external SAN switch must support NPIV for ServerView Virtual-IO Manager operation (e.g. Brocade Silkworm SW4101).

Other Hardware Requirements – LAN Connectivity		(Same as ServerView Resource Orchestrator V3.2 Cloud Edition)
LAN Connectivity NIC		Depends on each server's support
LAN Connectivity Switches	FUJITSU PRIMERGY BX400/BX900	Ethernet Switch/IBP 1Gbps 36/12 (SB11a) [2] Ethernet Switch/IBP 1Gbps 36/8+2 (SB11) [2] Ethernet Switch/IBP 1Gbps 18/6 (SB6) [2] Ethernet Switch/IBP 10Gbps 18/8 (SBAX2) [2] Ethernet Converged Fabric Switch10 Gbps 18/8+2 (SBAX3) Ethernet DCB Switch10Gbps 18/6/6 (VDX2730) Ethernet FEX 10Gbps 16/8 (B22F)

Other Hardware Requirements – LAN Connectivity (Cont'd)	
LAN Connectivity External Switches (controlled by ServerView Resource Orchestrator)	FUJITSU Network System SR-X 300, SR-X 500 series (firmware version: V01 or later)[9] Cisco Catalyst series: 2900, 2918, 2928, 2940, 2950, 2955, 2960, 2970, 2975 Cisco Catalyst series: 3500, 3550, 3560, 3750(IOS 12.2(40) or later) Cisco Nexus series: 2000, 5000 (firmware version: NX-OS V5.2) Brocade VDX series: 6710, 6720, 6730, 6740, 6740T, 6940 (firmware version: NOS 2.0 or later)
LAN Connectivity External Switches (not controlled by ServerView Resource Orchestrator)	Any
Firewalls (controlled by ServerView Resource Orchestrator)	Fujitsu NS appliance[13] Cisco ASA 5500 series (software version 8.3 or later)[14]
Firewalls (not controlled by ServerView Resource Orchestrator)	Any
Server Load Balancers (controlled by ServerView Resource Orchestrator)	F5 BIG-IP LTM series (software version BIG-IP V11.2)
Server Load Balancers (not controlled by ServerView Resource Orchestrator)	Any

Other Hardware Requirements – Storage		
Supported FC systems		Fibre Channel and iSCSI[11] boot is supported.
	Fujitsu	ETERNUS DX60/DX60 S2/S3, DX80/DX80 S2, DX90/DX90 S2, DX400/DX400 S2 ETRENUS DX100/DX200/DX500/DX600 S3 ETERNUS DX8000/DX8000 S2 ETERNUS 2000/8000 series, 4000 series (model 80 and 100 not supported) ETERNUS VX700 series (iSCSI only) [9]
	NetApp (SR) [21]	NetApp FAS6000/6200/3100/3200/2000/2200 series NetApp V6000/6200/3100/3200 series (NetApp models with Data ONTAP 7.3.3/8.0.1 7-mode)
	EMC	EMC CLARiiON CX4-120/240/480/960 EMC CLARiiON CX3-10/20/40/80 EMC VNX EMC Symmetrix DMX-3/-4 EMC Symmetrix VMAX

Distribution, Implementation, Documentation & Support	(Same as ServerView Resource Orchestrator V3.2 Cloud Edition)
User Interface	English, Japanese
User Skills	Basic knowledge of administration of operating systems (Windows, Linux, Solaris) and hypervisors (VMware vSphere, Microsoft Hyper-V, Oracle VM, Citrix XenServer, RedHat KVM) is presumed. Installation, configuration and implementation require detailed knowledge of FUJITSU ServerView Resource Orchestrator and the supporting software components and must be done by Fujitsu professional service or certified consultants.
Installation	By consultants specifically instructed by Fujitsu only.
Documentation	User manuals are contained in machine readable form in the media pack or can be downloaded from http://manuals.ts.fujitsu.com
Media	The media packs contain all software components and manuals in PDF format.
Conditions	This software product is supplied under conditions described in our current license agreement.
Warranty	Class: C
Maintenance & Support	Closure of a software maintenance contract is mandatory. Standard Support Packs are available for 1 year or 3 years maintenance. For details about the service offering see: http://ts.fujitsu.com/services/maintenance_support/software_services.html
Ordering and delivery	FUJITSU ServerView Resource Orchestrator DR Option Right-to-Use licenses and the DVD media pack are available from our local sales representative/regional office as well as FUJITSU ServerView Resource Orchestrator Cloud Edition.

For additional technical details, dependencies and restrictions, please consult the ServerView Resource Orchestrator support matrix available from your sales representative.

1) Server Core installation option not supported
2) Operating the LAN switch in IBP mode is project-specific
3) Cloning of hypervisor hosts is not supported
4) For backup & restore, hypervisor snapshot technology is used
5) Sharing of spare servers with Windows Server or Hyper-V Server is not supported
6) English, Japanese and German are supported
7) Project-specific
8) English, German, Japanese and Chinese are supported
9) Only supported in virtualized environments
10) For higher versions, support status depends on compatibility to versions mentioned in this data sheet
11) iSCSI boot support only on FUJITSU PRIMERGY BX900/BX400 servers with FUJITSU ServerView Virtual-IO Manager software
12) Not supported with redundant admin server
13) For deploying an NS Appliance, FUJITSU PRIMERGY BX924 S2/S3/S4 blade server with SBAX2 or FUJITSU PRIMERGY RX300 S7/S8 rack server and FUJITSU ETERNUS DX90/440S2 storage are recommended. For other hardware combinations, please contact Fujitsu.
14) Cisco ASA5505 is not supported
15) Japan market only
16) ServerView Resource Orchestrator doesn't provide sample script for automatic configuration.
17) Universal multichannel is not supported
18) Monitoring only

More information

Fujitsu platform solutions

In addition to FUJITSU ServerView Resource Orchestrator DR Option, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Dynamic Infrastructures
With the Fujitsu Dynamic Infrastructures approach, Fujitsu offers a full portfolio of IT products, solutions and services, ranging from clients to datacenter solutions, Managed Infrastructure and Infrastructure-as-a-Service. How much you benefit from Fujitsu technologies and services depends on the level of cooperation you choose. This takes IT flexibility and efficiency to the next level.

Computing products
www.fujitsu.com/global/services/computing/
- PRIMERGY: Industrial standard server
- PRIMEQUEST: Mission-critical IA server
- SPARC Enterprise: UNIX server
- ETERNUS: Storage systems

Software
www.fujitsu.com/software/
- ServerView Resource Orchestrator: Cloud infrastructure management software
- Systemwalker: System management software
- Interstage: Application infrastructure software

More information

To learn more about FUJITSU ServerView Resource Orchestrator DR Option, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.
www.fujitsu.com/software

Fujitsu green policy innovation

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www.fujitsu.com/global/about/environment/

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Contact
Fujitsu Limited
Website: www.fujitsu.com
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