

White paper

ServerView Virtual-I/O Manager BX900 In-Chassis Configuration

PRIMERGY BX900 – The Dynamic Cube

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Introduction

The ServerView Suite provides comprehensive Lifecycle Management of Fujitsu PRIMERGY Servers. It consists of various Managers, some basic, free of charge like ServerView Operations Manager and other more specialized like the ServerView Virtual-IO Manager (VIOM).

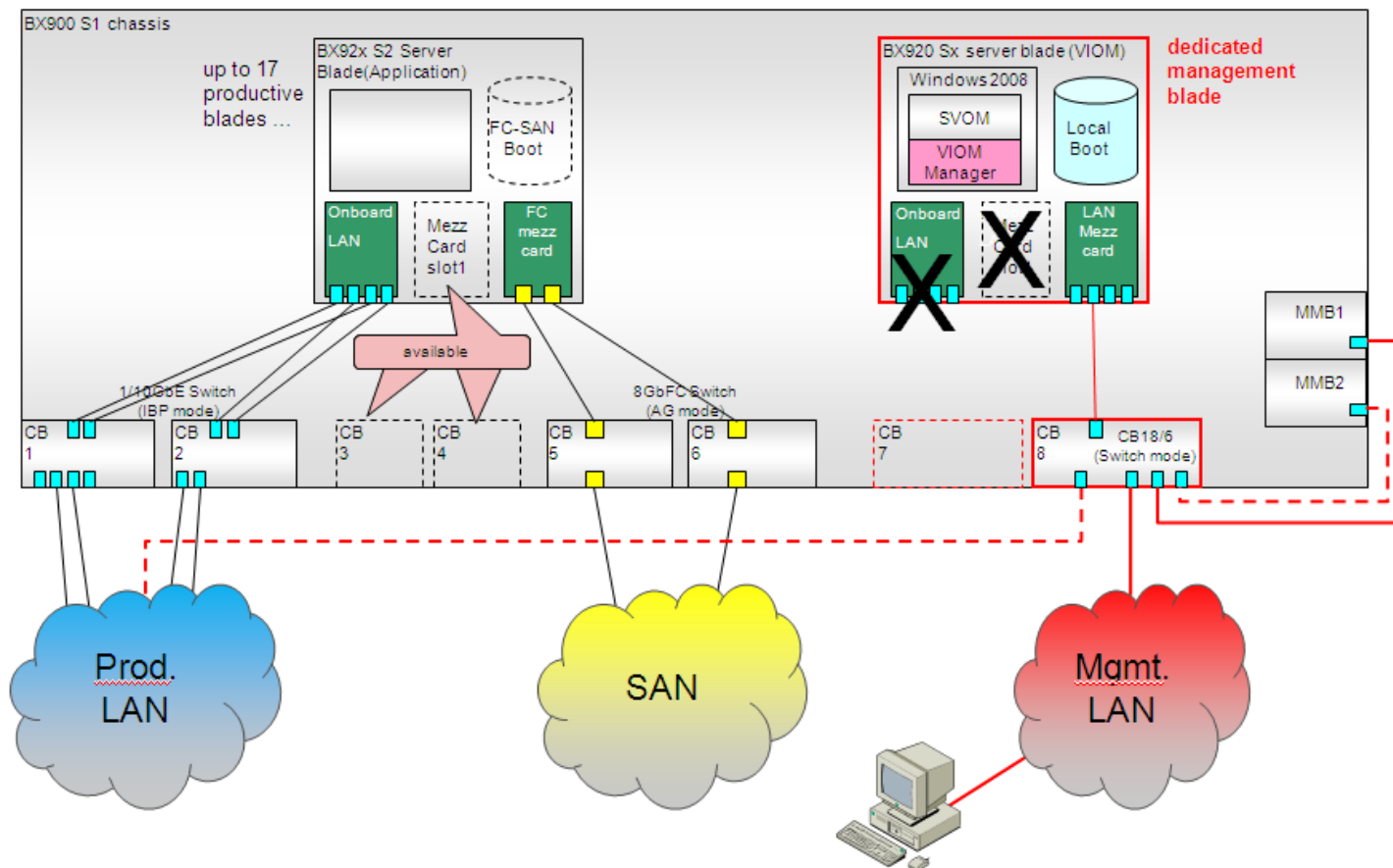
The ServerView Virtual-IO Manager provides a central control instance, which enables the administration of a large number of PRIMERGY BX900, BX400 and BX600 blade servers via virtualization and storage of the corresponding server blade I/O parameters (MAC addresses, WWNs, I/O connections and boot parameters) in a server profile, which is independent of the hardware. This profile is used to easily allocate the server blades in the managed pool irrespective of location, thus enabling resources to be used more dynamically and efficiently.

Although VIOM is designed to manage a large number of blade server chassis and therefore normally requires a separate Central ServerView Management Station (CMS) outside the managed chassis there are several use cases of one chassis configurations (data center in a box) where VIOM can efficiently be used for instance to process blade fail-over.

This white paper describes a VIOM scenario in which the Central Management Station is running on a blade server located within the managed chassis.

Concept and Architecture

For security and reliability reasons the VIOM concept recommends using separate networks for management and productive traffic. Inside the BX900 chassis this is achieved by spending a separate LAN fabric (fabric 4) exclusively for management.



One server blade (recommended slot 1) is reserved to host the VIOM Manager software and connected to fabric 4 through a LAN Mezzanine Card in mezzanine slot 2. Fabric 4 has to be equipped with a LAN Connection Blade (e.g. CB18/6) in either slot 7 or 8 to serve as management switch. Uplinks of this Connection Blade have to be connected to at least one of the MMB or to both in case redundant MMB connection is desired. The Management Client (e.g. PC) used to operate the VIOM software has to be connected to this management switch as well. The fabrics 1, 2 and 3 and all remaining 17 server blades are available for productive usage, with the exception that 1GbE LAN Mezzanine Cards are not allowed in server blade's mezzanine slot 2.

If besides VIOM additional Management Software (e.g. further ServerView Managers) is installed on the management station, which requires LAN access to the productive blades, a LAN connection between management and productive LAN has to be established

Configuration Details

Server Blade used as Central Management Station

- Hardware:
any BX92x server blade with 1GbE LAN Mezzanine Card in slot 2,
recommended: BX920, 1 CPU, 8 GB RAM, 600GB local HDD
IO Connection Blade CB18/6 in fabric 4
- Software, installed in a local disc
Windows 2008 R2 Operating System or newer,
ServerView Operations Manager 5.0 or newer,
ServerView Virtual-IO Manager 2.4 or newer
Installation / setup procedure is identical to separate management station

Productive Server Blades (managed by VIOM)

- Hardware
any BX900 configuration, with the following restriction:
 - No 1GbE LAN Mezzanine Card allowed in slot 2
- Software
any OS / application software which is supported on the server blades
 - No specific restrictions

Installation and Setup

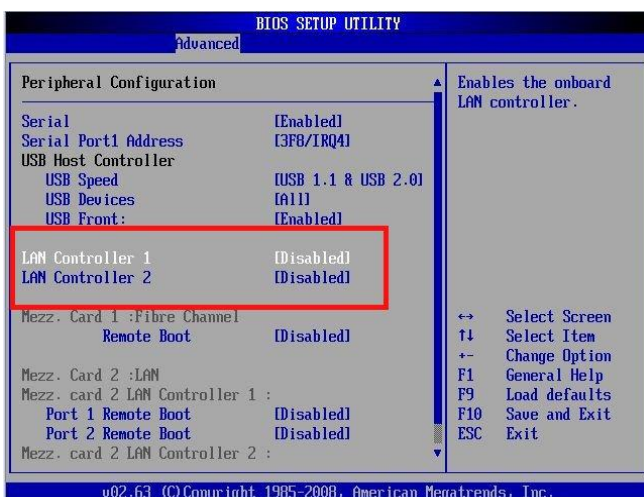
Management Server

Installation of

- Windows OS,
- ServerView Operations Manager and
- Virtual-IO Manager

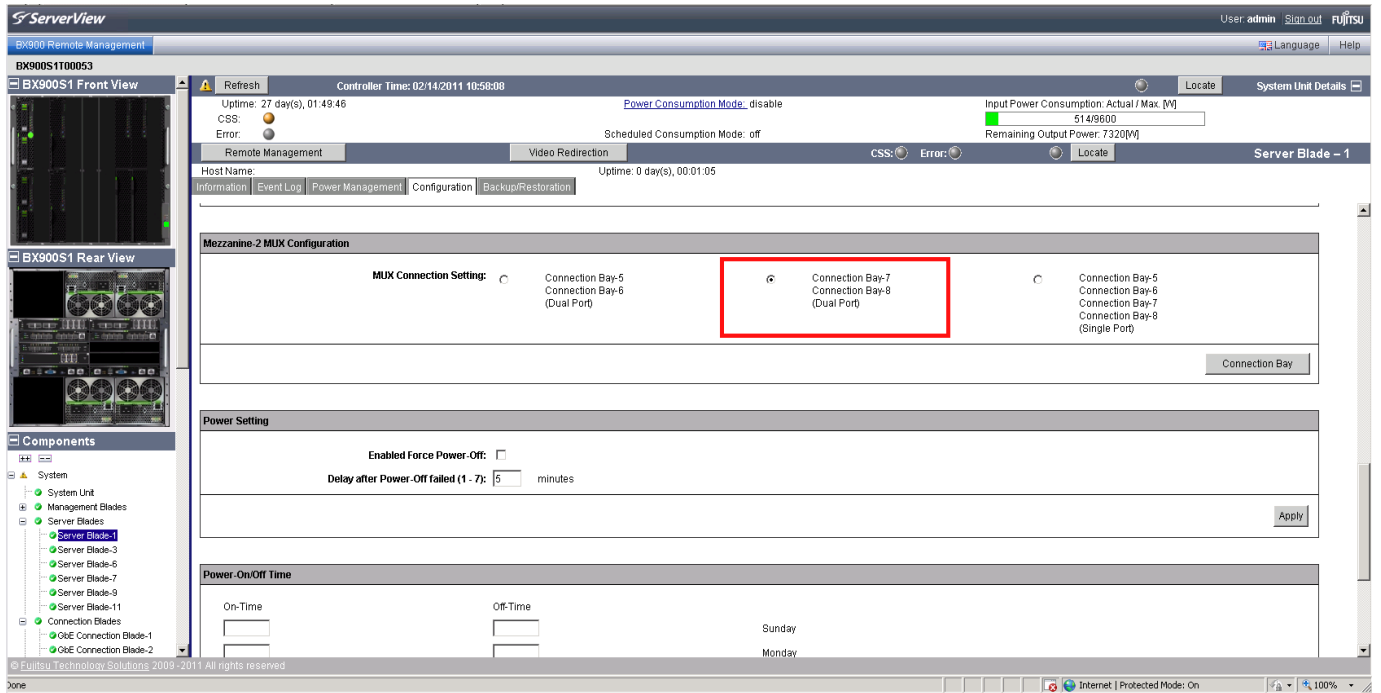
on the server blade used as central management station is similar to the installation on an external management station.

1. Before actually starting the management server OS installation disable all onboard LAN Controllers in BIOS:



... and ...

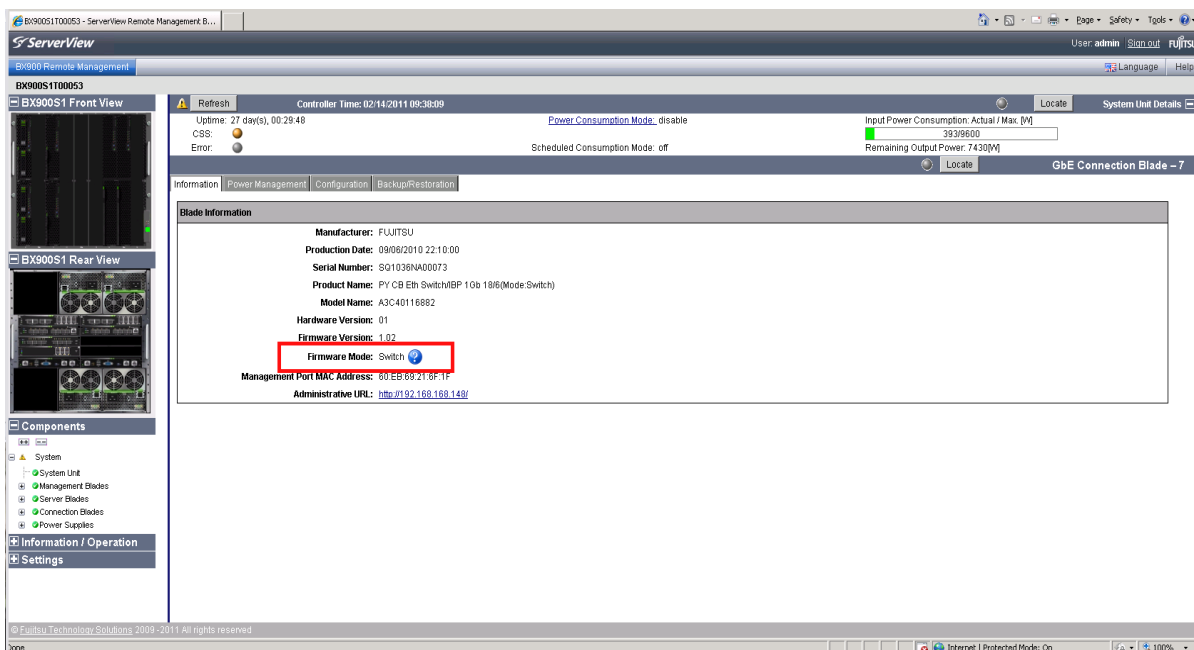
2. Set MUX of LAN Mezzanine Card to fabric 4
Login to MMB GUI, select the blade server used as management station (slot 1), select tab "Configuration"
Set „Mezzanine-2 MUX Configuration" to "Connection Bay 7 & 8" (fabric 4).



3. Install Windows Operating System with latest ServerView Installation Manager
4. Configure Management LAN Address on Mezzanine Card 2
5. Install and setup ServerView Operations Manager
6. Install and setup ServerView Virtual-IO Manager
Installation according to general Installation Manual

Management Switch

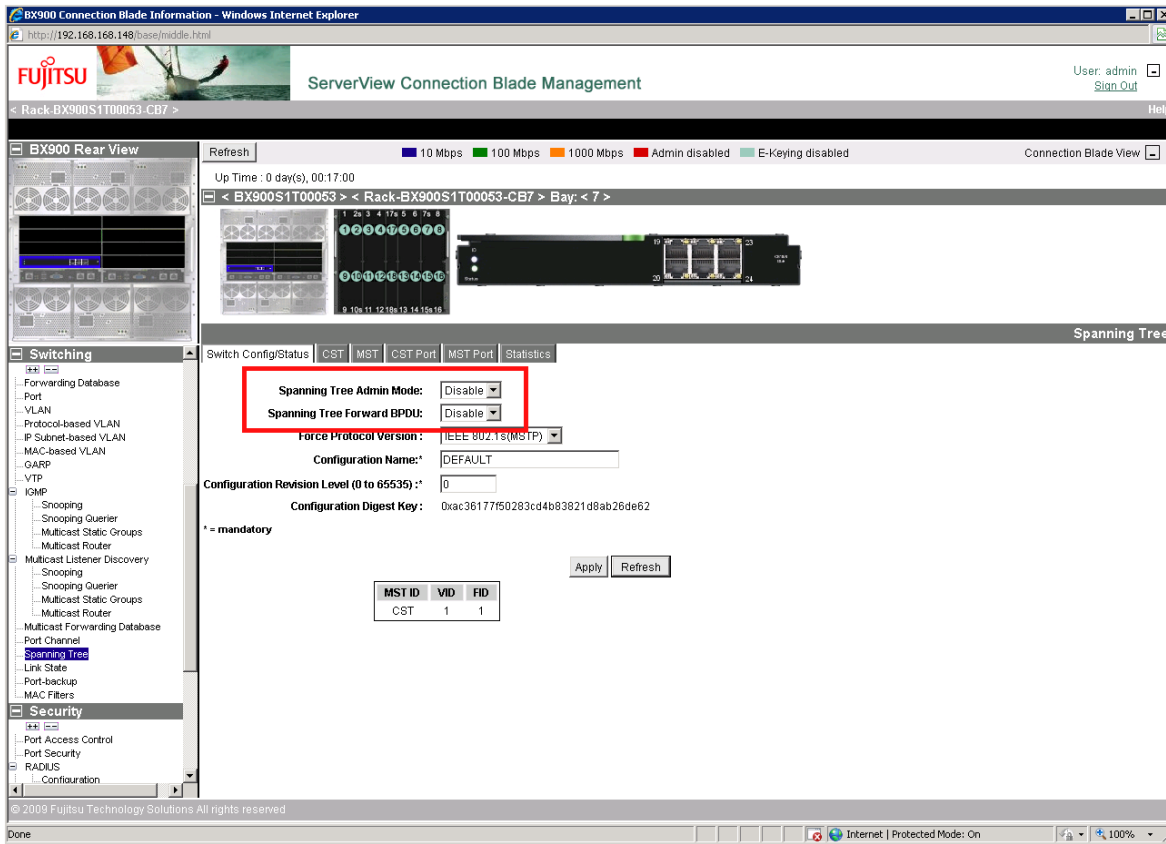
1. Ensure that Connection Blade in fabric 4 is in switch mode and not in IBP mode:
login to MMB GUI, select CB (7 or 8), select first tab "Information", check: "Firmware Mode: Switch"



If not in switch mode, than start telnet or SSH session on Connection Blade and select switch mode by:

```
boot-system mode switch
reload
```

2. Disable Spanning Tree Protocol on the Connection Blade
Login to Web GUI on switch, select "Switching", sub item "Spanning Tree", first tab "Switch Config/Status"



Operational and Maintenance Hints

The server blade used as management station

- cannot be managed by VIOM
 - must not be defined as spare blade
 - no VIOM profile assignment possible
- has to run with manufacturer default addresses, no address virtualization available
- has to be shutdown during firmware update of
 - Management Blade (MMB)
 - Connection Blade in fabric 4, used as management switch

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