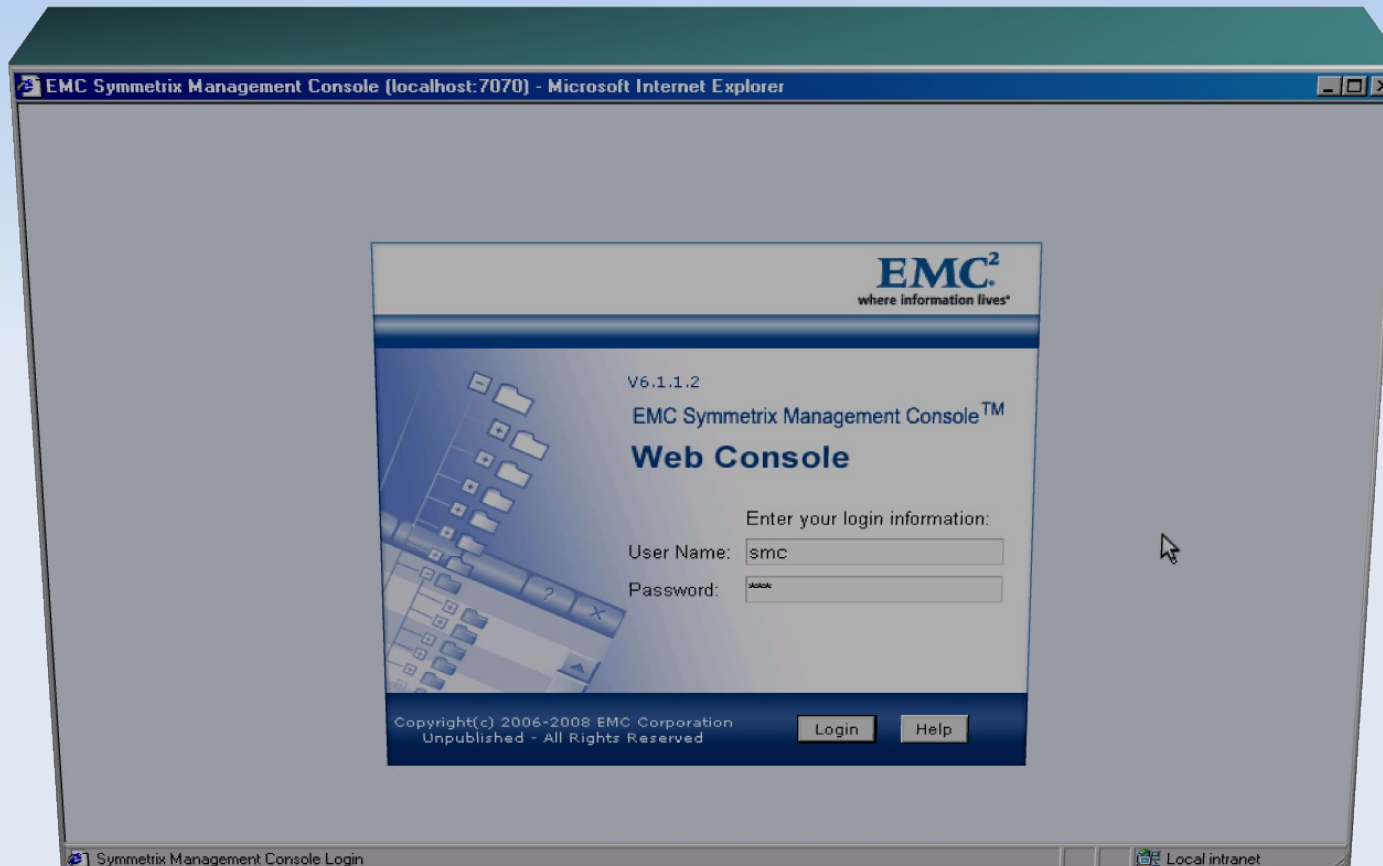
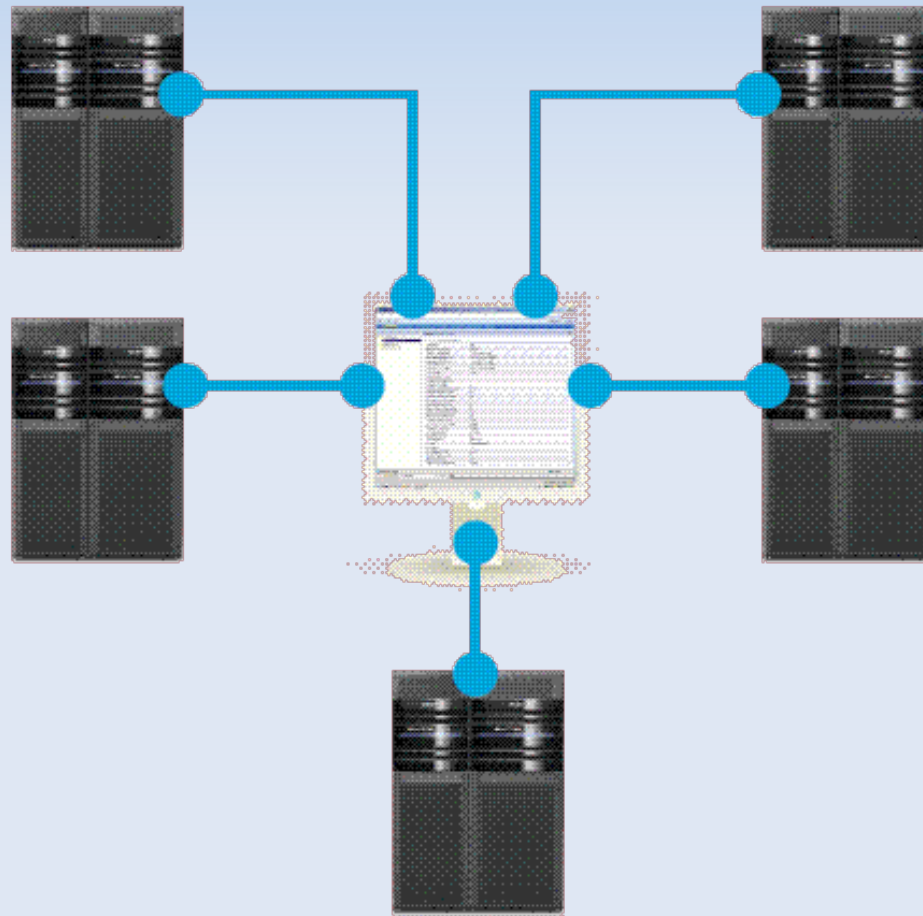


# Symmetrix Management Console



# Symmetrix Management Console

**Symmetrix Management Console** to oprogramowanie przeznaczone do zarządzania wszystkimi macierzami EMC w DataCenter z jednego miejsca.

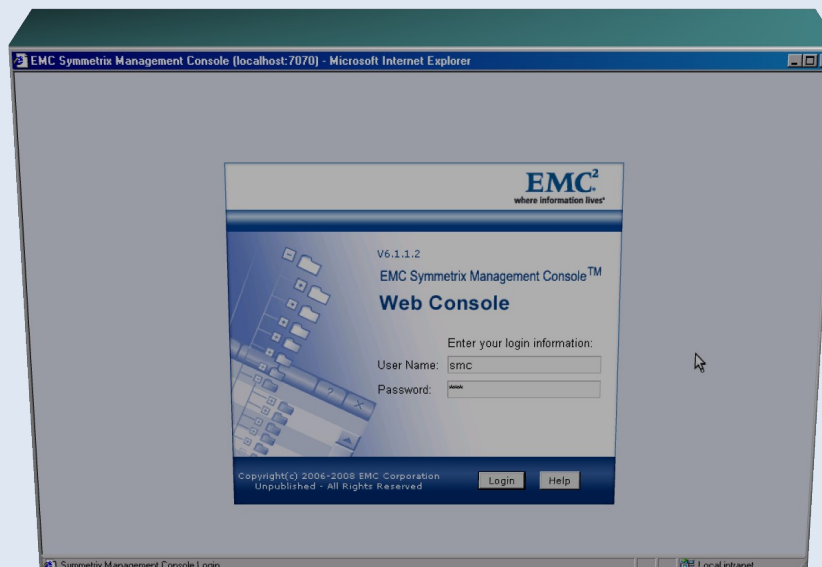


# Symmetrix Managment Console

**Symmetrix Managment Console** to oprogramowanie przeznaczone dla administratorów zajmujących się przydzielaniem zasobów dyskowych w serwerowniach oraz monitoringiem systemów pamięci masowych.

Prezentacja przedstawia cztery główne aspekty konfiguracji macierzy:

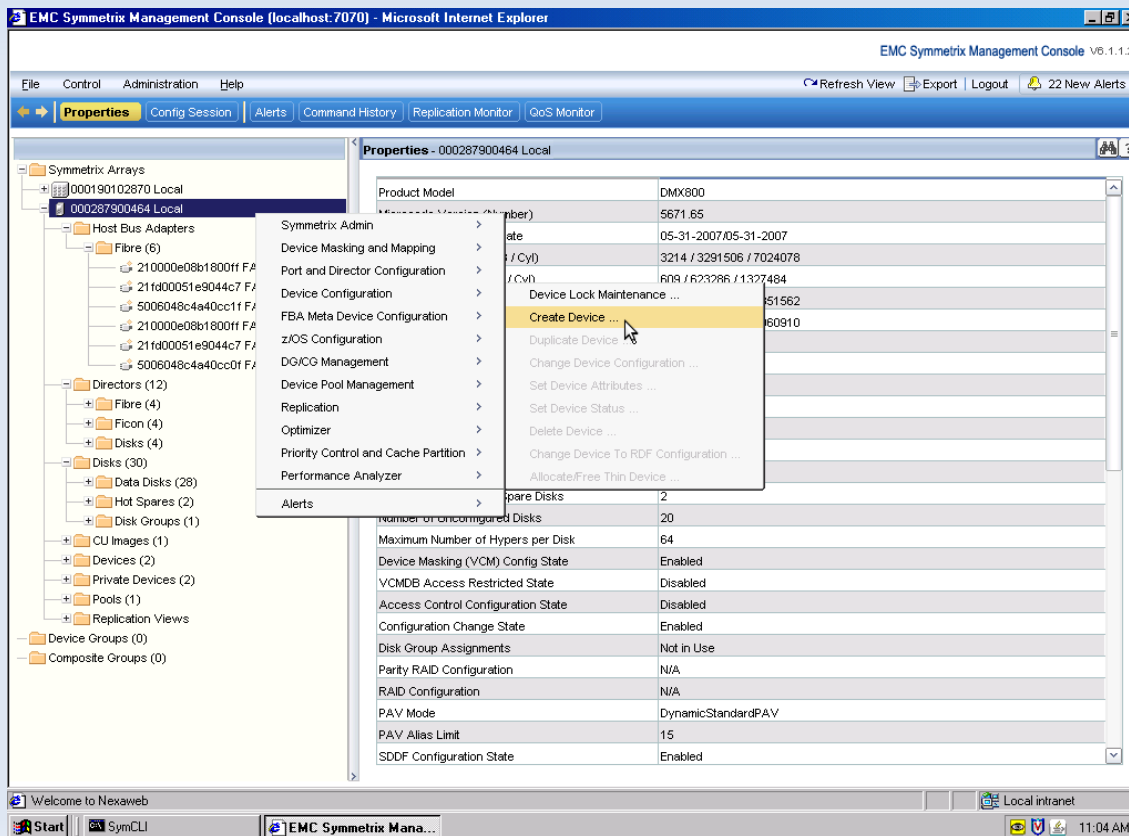
1. **Tworzenie dysków**
2. **Budowanie dużych woluminów**
3. **Mapowanie zasobów macierzy do kanałów**
4. **Maskowanie zasobów dla określonych WWN'ów – LUN masking**



# Symmetrix Management Console

**Tworzenie nowego dysku** – podstawowym elementem macierzy, który udostępniemy jest dysk. Aby stworzyć dysk na macierzy należy z menu kontekstowego wybrać:

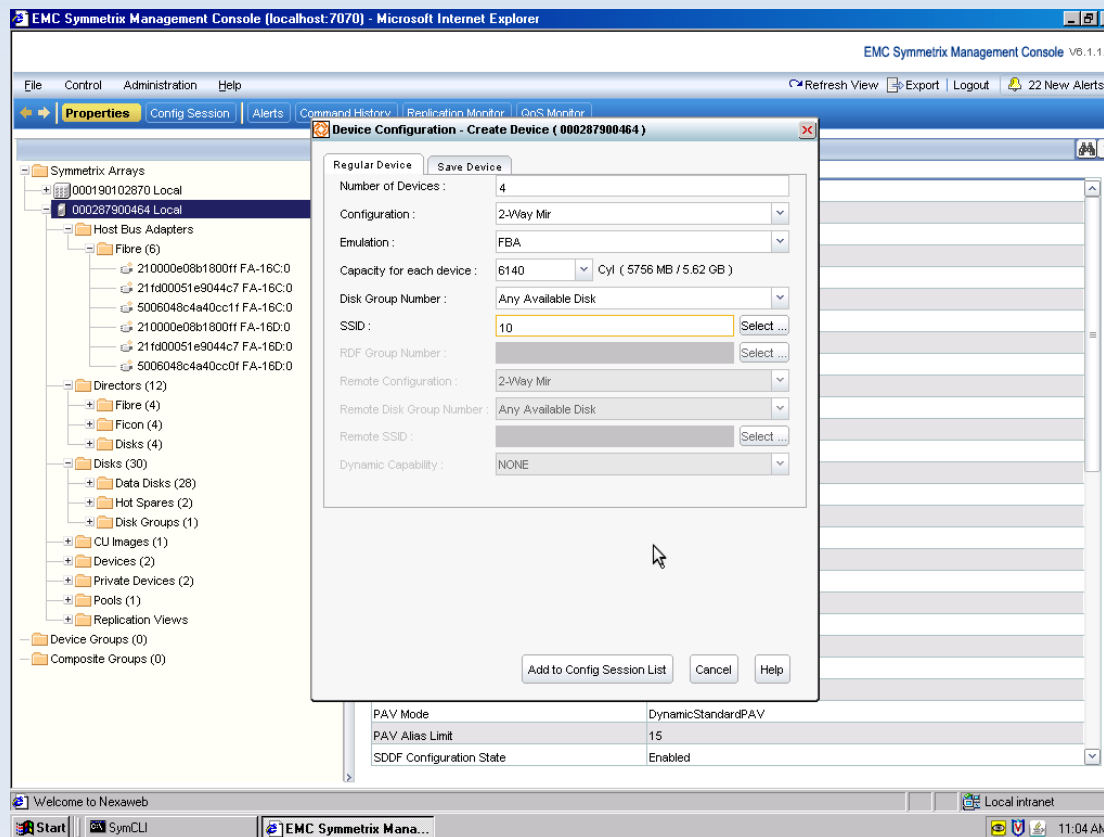
1. *Macierz* (jej numer seryjny) – możemy zarządzać kilkoma macierzami w SMC
2. *Device Configuration*
3. *Create Device*



# Symmetrix Management Console

**Tworzenie nowego dysku** – w oknie dialogowym wypełniamy poszczególne pola według założeń :

1. *Wpisujemy ilość dysków*
2. *Rodzaj zabezpieczenia (Typ RAID'u)*
3. *Pojemność dysku*



# Symmetrix Management Console

**Tworzenie nowego dysku** – po wypełnieniu wartości dodajemy zadanie do sesji. Możemy wykonać zadanie natychmiast lub w innym czasie ze względu na np. chwilowe obciążenie macierzy.

The screenshot displays the EMC Symmetrix Management Console (V6.1.1.2) running in Microsoft Internet Explorer. The interface includes a navigation pane on the left with a tree view of Symmetrix Arrays, including folders like Host Bus Adapters, Fibre, Directors, Ficon, Disks, and Data Disks. The main area shows a 'ConfigSession - 000287900464 Local' window with a table of tasks:

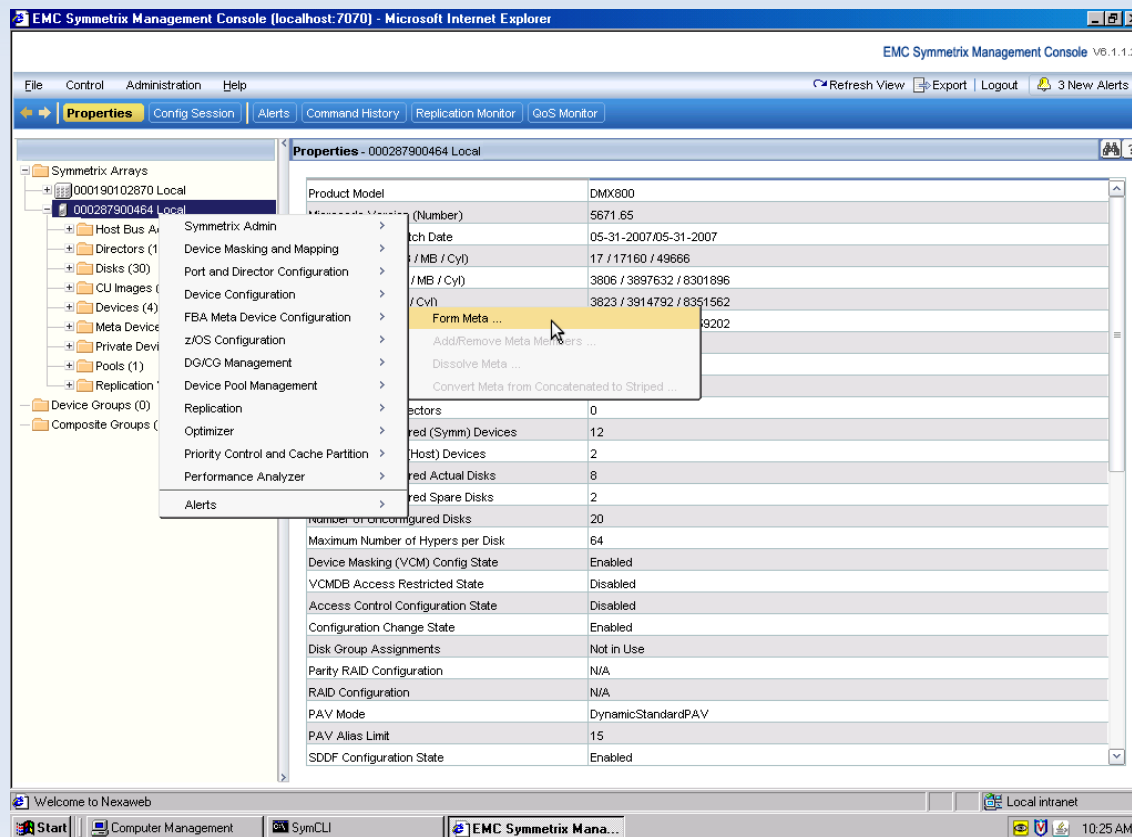
ID	Config Item	Managed Object	Status	Description
1	Create Devices	000287900464	VALIDATED	Create 4 devices of (2-Way Mir)(FBA)(capacity for each device = 6140 C...

A 'Question' dialog box is overlaid on the console, asking: 'Committing a config change may take a long time, continue?'. Below the dialog are buttons for 'Deactivate', 'Preview All', 'Commit All', 'Abort All', 'Activate', and 'Clear'. At the bottom, a 'Log' section shows a series of system messages, including 'New Device(s) : 0004-0007 on Disk Group Number 0'.

# Symmetrix Management Console

**Tworzenie Meta FBA** – drugą czynnością jaka może wynikać z potrzeb serwera to stworzenie dużego dysku zwanego Meta FBA z wcześniej utworzonych dysków.

1. Z menu kontekstowego wybieramy opcję *FBA Meta Devices Configuration*
2. *Form Meta*



# Symmetrix Management Console

Tworzenie Meta FBA – po wpisaniu wszystkich parametrów mety dodajemy ją do zadań do wdrożenia.

EMC Symmetrix Management Console (localhost:7070) - Microsoft Internet Explorer

EMC Symmetrix Management Console v6.1.1.2

File Control Administration Help Refresh View Export Logout 11 New Alerts

Properties FBA Meta Device Configuration - Form FBA Meta ( 000287900464 )

Device Type: Regular  
Meta Config: Striped Stripe Size ( cyl / blocks ): 2 / 1920  
 Auto Select Number of Metas: 1 Number of Meta Members including Head:

Filter Available list  
Dev Config: 2-Way Mir Emulation: FBA Cap (MB): 2878 Res: Unres

Available Unmapped Devices

Dev	Cap (MB)	Dev Config	Res
000D	2878	2-Way Mir	
000E	2878	2-Way Mir	

Meta Members

Dev	Cap (MB)	Dev Config	Res
000F	2878	2-Way Mir	
0010	2878	2-Way Mir	
0011	2878	2-Way Mir	

Meta Head: 000F

Reserve Comments:  Expiration: Never

Add to Config Session List Cancel Help

PAV Alias Limit 15  
SDDF Configuration State Enabled

Welcome to Nexaweb Local intranet 11:17 AM



# Symmetrix Management Console

Tworzenie Meta FBA – wdrażamy zmianę konfiguracji natychmiast lub w późniejszym okresie.

The screenshot displays the EMC Symmetrix Management Console interface. The main window is titled 'ConfigSession - 000287900464 Local'. It features a table with the following data:

ID	Config Item	Managed Object	Status	Description	Usr
1	Form Meta	000287900464	CREATED	Create Striped Meta with stripe size of 1920 with 000F as Meta Head.	smc
2	Add Meta Members	000287900464	CREATED	add 1 meta members (0010) to 000F	smc

Below the table, a 'Question' dialog box is open, asking: 'Committing a config change may take a long time, continue?' with 'Yes' and 'No' buttons. At the bottom of the main window, there is a 'Log' section with the following entries:

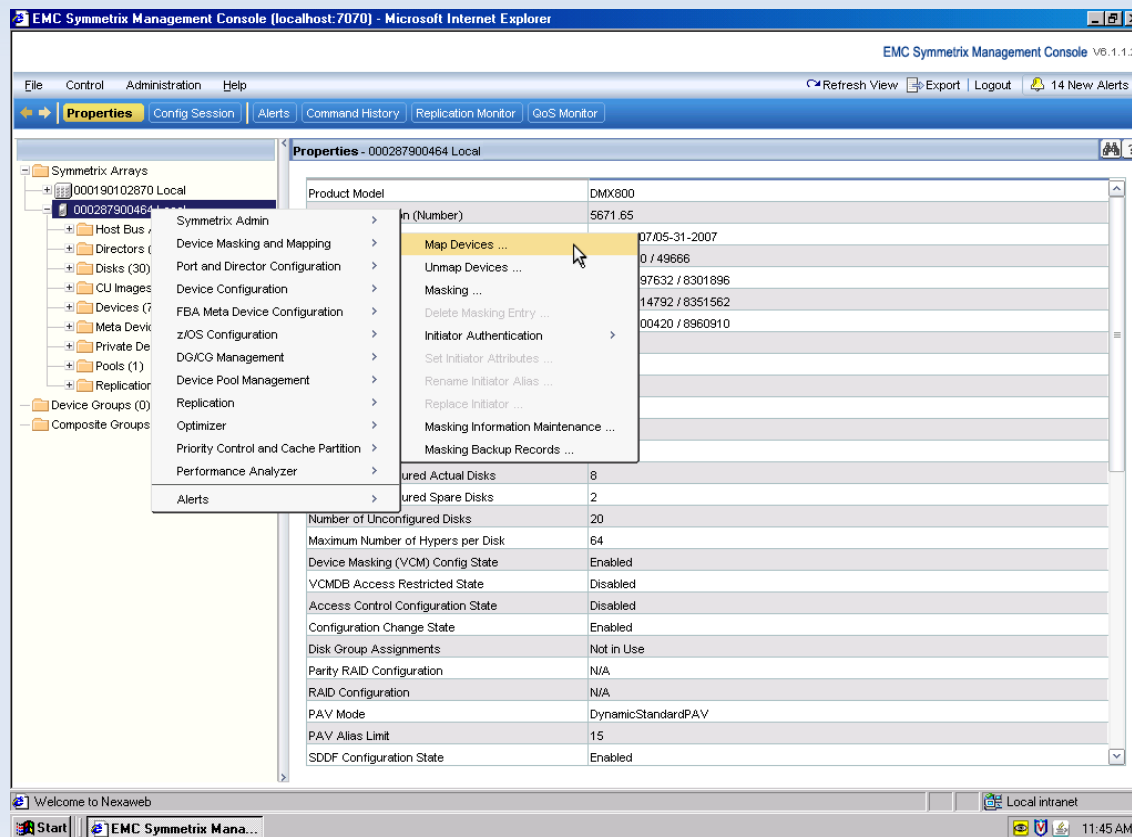
- Tue Apr 03 11:17:18 GMT-05:00 2012 task created : Create Striped Meta with stripe size of 1920 with 000F as Meta Head.
- Tue Apr 03 11:17:18 GMT-05:00 2012 task created : add 1 meta members (0010) to 000F

The interface also includes a left-hand navigation pane with a tree view of Symmetrix Arrays, and a top navigation bar with tabs for Properties, Config Session, Alerts, Command History, Replication Monitor, and QoS Monitor. The bottom of the screenshot shows the Windows taskbar with the Start button, 'EMC Symmetrix Mana...', and the system clock showing 11:17 AM.

# Symmetrix Management Console

**Mapowanie zasobu do kanału** – Jeżeli chcemy przydzielić zasoby macierzy dla serwera lub serwerów należy wykonać **MAPOWANIE** do kanału i **MASKOWANIE** dla WWN'a.

1. Z menu wybieramy opcję: *Device Masking and Mapping*
2. *Map Devices*

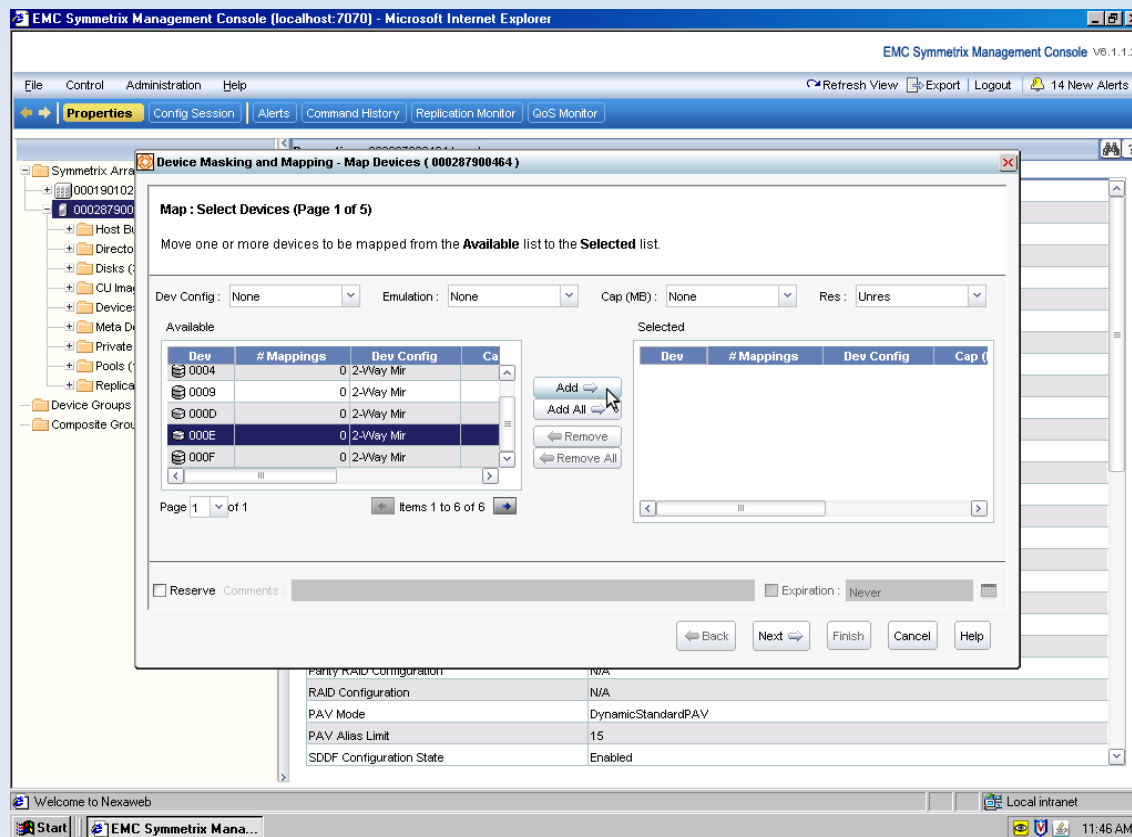


The screenshot displays the EMC Symmetrix Management Console interface. The main window shows the 'Properties' page for a local array (000287900464). A context menu is open over the 'Device Masking and Mapping' option in the left-hand navigation tree. The menu items include: 'Map Devices ...', 'Unmap Devices ...', 'Masking ...', 'Delete Masking Entry ...', 'Initiator Authentication', 'Set Initiator Attributes ...', 'Rename Initiator Alias ...', 'Replace Initiator ...', 'Masking Information Maintenance ...', and 'Masking Backup Records ...'. The 'Map Devices ...' option is highlighted by the mouse cursor. The background shows a table of array properties and a list of disks.

Property	Value
Product Model	DMX800
In (Number)	5671.65
Created Actual Disks	8
Created Spare Disks	2
Number of Unconfigured Disks	20
Maximum Number of Hypers per Disk	64
Device Masking (VCM) Config State	Enabled
VCMDB Access Restricted State	Disabled
Access Control Configuration State	Disabled
Configuration Change State	Enabled
Disk Group Assignments	Not in Use
Parity RAID Configuration	N/A
RAID Configuration	N/A
PAV Mode	DynamicStandardPAV
PAV Alias Limit	15
SDDF Configuration State	Enabled

# Symmetrix Management Console

**Mapowanie zasobu do kanału** – W oknie dialogowym wybieramy zasoby dyskowe, które chcemy mapować do kanałów. Lista, z której będziemy wybierać jest po lewej stronie.



# Symmetrix Management Console

**Mapowanie zasobu do kanału** – Po wybraniu dysków widzimy je w prawej kolumnie. Klikamy NEXT w celu przejścia do następnych opcji.

EMC Symmetrix Management Console (localhost:7070) - Microsoft Internet Explorer

EMC Symmetrix Management Console v6.1.1.2

File Control Administration Help Refresh View Export Logout 14 New Alerts

Properties Config Session Alerts Command History Replication Monitor QoS Monitor

Device Masking and Mapping - Map Devices ( 000287900464 )

Map : Select Devices (Page 1 of 5)

Move one or more devices to be mapped from the Available list to the Selected list.

Dev Config : None Emulation : None Cap (MB) : None Res : Unres

Dev	# Mappings	Dev Config	Ca
0000	8	2-Way Mir	
0004	0	2-Way Mir	
0009	0	2-Way Mir	
000D	0	2-Way Mir	

Available

Selected

Dev	# Mappings	Dev Config	Cap (
000E	0	2-Way Mir	

Selected

Page 1 of 1 Items 1 to 5 of 5

Page 1 of 1 Items 1 to 1 of 1

Reserve Comments : Expiration : Never

Back Next Finish Cancel Help

Parity RAID Configuration N/A  
RAID Configuration N/A  
PAV Mode DynamicStandardPAV  
PAV Alias Limit 15  
SDDF Configuration State Enabled

Welcome to Nexaweb Local intranet 11:46 AM

# Symmetrix Management Console

**Mapowanie zasobu do kanału** – Analogicznie wybieramy kanał lub kanały, do których będziemy mapować zasoby dyskowe.

EMC Symmetrix Management Console (localhost:7070) - Microsoft Internet Explorer

EMC Symmetrix Management Console v6.1.1.2

File Control Administration Help Refresh View Export Logout 14 New Alerts

Properties Config Session Alerts Command History Replication Monitor QoS Monitor

Device Masking and Mapping - Map Devices ( 000287900464 )

Map : Select Ports (Page 2 of 5)

Move one or more ports to be mapped from the **Available** list to the **Selected** list.

Port	# Mappings
FA-1C:0	1
FA-1C:1	1
FA-1D:0	1
FA-1D:1	1
FA-16C:0	1
FA-16C:1	1
FA-16D:1	1

Add Add All Remove Remove All

Port	# Mappings
FA-16D:0	1

Page 1 of 1 Items 1 to 7 of 7 Page 1 of 1 Items 1 to 1 of 1

Back Next Finish Cancel Help

Parity RAID Configuration	N/A
RAID Configuration	N/A
PAV Mode	DynamicStandardPAV
PAV Alias Limit	15
SDDF Configuration State	Enabled

Welcome to Nexaweb Local intranet 11:46 AM

# Symmetrix Management Console

Mapowanie zasobu do kanału – Ustalamy adres LUN.

EMC Symmetrix Management Console (localhost:7070) - Microsoft Internet Explorer

EMC Symmetrix Management Console v6.1.1.2

File Control Administration Help Refresh View Export Logout 14 New Alerts

Properties Config Session Alerts Command History Replication Monitor QoS Monitor

Device Masking and Mapping - Map Devices ( 000287900464 )

Map : Set LUN Addresses (Page 3 of 5)

Generated LUNs are in blue (double-click to edit). LUNs already mapped are in black.

Dev	# Mappings	Cap (MB)	LUN Address
000E	0	2878	001

Reset Start LUN Address : 001 Next Available Apply

Back Next Finish Cancel Help

Parity RAID Configuration N/A  
RAID Configuration N/A  
PAV Mode DynamicStandardPAV  
PAV Alias Limit 15  
SDDF Configuration State Enabled

Welcome to Nexaweb Local intranet 11:47 AM

# Symmetrix Management Console

Mapowanie zasobu do kanału – Dodajemy zadanie do sesji.

The screenshot shows the EMC Symmetrix Management Console interface. A dialog box titled "Device Masking and Mapping - Map Devices (000287900464)" is open, showing a "Map : Review (Page 5 of 5)" screen. The dialog contains a table of "Selected Devices" with the following data:

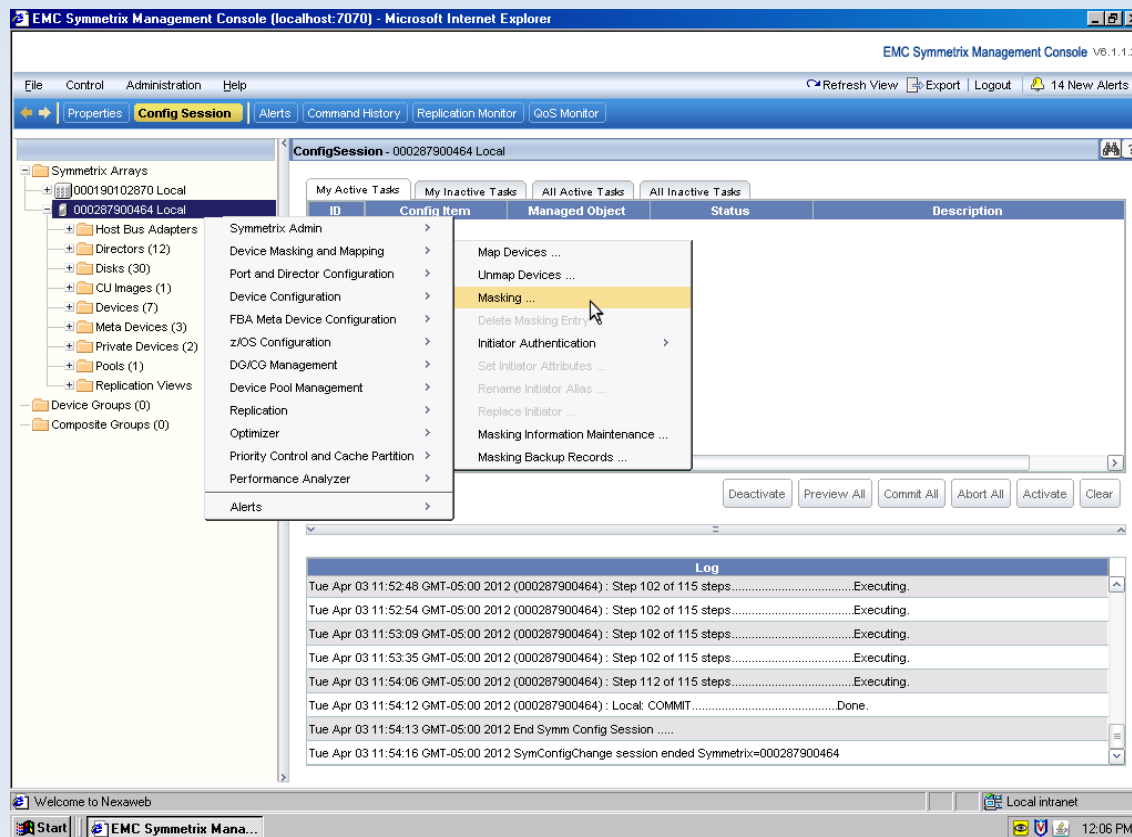
Dev	# Mappings	Dev Config	Cap (MB)	Meta
000E	0	2-Way Mir	2878	N/A

Below the table, there are buttons for "Back", "Add to Config Session List", "Cancel", and "Help". The background shows the console's navigation pane and various configuration options like "Parity RAID Configuration", "RAID Configuration", "PAV Mode", "PAV Alias Limit", and "SDDF Configuration State".

# Symmetrix Management Console

**Maskowanie zasobu do WWN** – Jest to przypisanie zasobu dyskowego do konkretnego numeru WWN karty FC serwera.

1. Z menu wybieramy Device Masking and Mapping
2. Masking





# Symmetrix Management Console

**Maskowanie zasobu do WWN – Wybieramy kanał FC macierzy, przez który łączymy się serwerem.**

The screenshot displays the EMC Symmetrix Management Console interface. The main window is titled "Device Masking and Mapping - Masking (000287900464)". The "Director Port" is set to "FA-1C:0". The "Initiator" list includes "FA-1D:1", "FA-16C:0", "FA-16C:1", and "FA-16D:0", with "FA-16D:0" selected. The "Filter Available" section shows "FA-16D:0" and "FA-16D:1". The "Available Devices" table contains one entry:

Dev	Dev Config	LUN Num	Cap (MB)
0000	2-Way Mir	000	45

The "Target" table is currently empty. The interface includes buttons for "Add", "Add All", "Remove", and "Remove All". At the bottom, there are "Apply", "OK", "Cancel", and "Help" buttons. The system tray shows "Welcome to Nexaweb", "Local intranet", and the time "12:18 PM".

# Symmetrix Management Console

Maskowanie zasobu do WWN – Wybieramy „Alias Initiator” oraz dyski lub mety. Klikamy „Ok”.

The screenshot displays the EMC Symmetrix Management Console interface. The main window is titled "Device Masking and Mapping - Masking (000287900464)". The "Director Port" is set to "FA-16D:0". The "Initiator" is "210000e08b1800ff" and the "Initiator Alias" is "(210000e08b1800ff/210000e08b1800ff)". The "Filter Available list" shows "Dev Config: None", "Emulation: None", "Cap (MB): None", and "Res: Unres". The "Available Devices" table lists one device:

Dev	Dev Config	LUN Num	Cap (MB)
0000	2-Way Mir	000	45

The "Target" table lists one target:

Dev	Dev Config	LUN Num	Cap (MB)
000E	2-Way Mir	001	2878

Buttons for "Add", "Add All", "Remove", and "Remove All" are visible between the tables. The "OK" button is highlighted with a mouse cursor. The console also shows a "17 New Alerts" notification and a "Set Dynamic LUN Address" checkbox.

# Symmetrix Management Console

Maskowanie zasobu do WWN – Mamy zamaskowane zasoby do nr WWN.

The screenshot displays the EMC Symmetrix Management Console interface. The left sidebar shows a tree view of Symmetrix Arrays, with '000287900464 Local' selected. The main pane shows the 'Properties' for this device, including a table of hardware and configuration details. A 'Success' dialog box is overlaid on the table, indicating a successful device masking session.

Property	Value
Product Model	DMX800
Microcode Version (Number)	5671.65
Microcode Date/Patch Date	05-31-2007/05-31-2007
Used Capacity (GB / MB / Cyl)	17 / 17160 / 49666
Free Capacity (GB / MB / Cyl)	3806 / 3897632 / 8301896
Capacity (GB / MB / Cyl)	3823 / 3914792 / 8351562
Actual Capacity (GB / MB / Cyl)	4102 / 4200420 / 8960910
Cache Size (MB)	32768
Number of Front Ports	8
Number of Back Ports	2
Number of RDF Ports	20
Number of Configured Actual Disks	64
Number of Configured Spare Disks	Enabled
Number of Unconfigured Disks	Disabled
Maximum Number of Hypers per Disk	Enabled
Device Masking (VCM) Config State	Disabled
VCMDB Access Restricted State	Enabled
Access Control Configuration State	Not in Use
Configuration Change State	N/A
Disk Group Assignments	N/A
Parity RAID Configuration	DynamicStandardPAV
RAID Configuration	15
PAV Mode	Enabled
PAV Alias Limit	Enabled
SDDF Configuration State	

# Symmetrix Managment Console

**Symmetrix Managment Console** – Program posiada zdecydowanie większą funkcjonalność. Przedstawiliśmy tutaj jedynie podstawowe funkcje umożliwiające rozpoczęcie pracy z macierzą.

Warto wspomnieć o możliwości skonfigurowania zdalnej replikacji SRDF, QoS, Optimizer, Duplikatach i modułach dodatkowych jak SPA (Symmetrix Performance Analyzer). Za pomocą SMC możemy konfigurować i monitorować stan macierzy.

# Symmetrix Managment Console

**Dziękuję za uwagę !**

***CPU SERVICE SP.J.***

03-117 Warszawa, ul. Jana Żiżki 3

[www.cpuservice.pl](http://www.cpuservice.pl)

Tel. +48 22 744 53 20 Fax. +48 22 744 53 22