# ZyXEL ENC Enterprise Network Center

Network Management

## Support Notes

Version FCS August 2010



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## **Product Application Diagram**

#### **General Application Notes**

ZyXEL Enterprise Network Center (ENC) is a Centralized Network Management tool for supporting ZyXEL Ethernet switches and Enterprise WLAN access points.

ENC allows multiple network administrators to monitor and manage up to 1000 (A) ZyXEL Enterprise Ethernet switches and Enterprise access points. The administrator can perform management through the ENC server (B) itself or through another computer (C).



### **Product Operation Scenario**

This chapter provides some examples of using the Web Configuration to set up the common Administrator scenarios.

#### Flexibility to manage un-specific products

Although ZyXEL ENC is designed for ZyXEL Ethernet Switch and Enterprise WLAN access point management purposes, administrators can use ENC to manage other manufacturer's products which support SNMP MIB as well. This will let administrators manage all their devices via a single tool to simplify the operation.

We use the ZyXEL IES-1248-51V to demonstrate how administrators can manage network devices.

 First, please prepare the IES-1248-51V private MIB file. Then go to Tools > MIB Loader page. Click Load to select the MIB file to be imported.

	ZyXEL	NC 1.0					
		Configuration 🗸	Events 🗸	Tool 🗸	Report 🗸	Application 🗸	Maintenance 🗸
	оту	8	🖵 Tool > MIB L	oader > User	Loaded MIBs		
	٩,	Go	User Loaded M	IBs Defau	t MIBs		
~	E 🕜 Root Subnet		C Load	Unload			
6	10.59.1.0			File Name			Module Name
	10.59.1.63	<b>4</b>	🕡 🤜 Page	1 of 0 👞	▶I 10 💌		
	<sup>**</sup> <sup>***</sup> 10.59.1.67	•0					

 When the file is loaded, the administrator can manage the available private MIB files on Tool > MIB Loader > User Loaded MIBs page. System default MIB files are listed at Tool > MIB Loader > Default MIBs.



3. After importing the private MIB file, the administrator can use the MIB Browser to check the related MIB information. Please right click the managed device and click **Configuration > MIB Browser**.

		IC 1.0							Welcome r	root   <u>Loqout</u>	Message Center	? <u>Help</u>
		Configuration 🗸	Events 🗸	Tool 🗸	Report 🗸	Application	v Ma	aintenanc	e 🗸			
	оту	æ 📼	Tool > Inventory	> Device								
	Q.	Go	Device									
	E 💿 Root Subnet			System	Access	Interface	Routing	ARP	Port Analyzer			
2	10.59.0.0		General									
	10.59.1.63	0	Display Name:	ZyXEL	_1248-51V	*	Status	s:	Į	<u> </u>		
	10.59.1.67	ð l	Device Type:	Other	s _	•	Discov	vered Date:	: 2	.010-05-10 15:0	07:11	
	10.59.1.20		Device Model:	None	•		Last U	Jpdate:	2	.010-05-10 15:0	08:27	
	10.59.1.30		IP Address:	10.59.	1.250	*	Firmw	are Version	n: N	lo such object.	No such object	
	10.59.1.50 📢	(1)	Login Username:	admin			Availa	ble TCP Po	rts:			
		51V	Login Password:	••••								
	Device Web (	GUI	Note: (3)									
	Cut Device	MIB Brov	wser									
	Device Copy Device	Script Di	stribution	TEC 12	10.011/		Ohior	+ID.	1	2 6 1 4 1 900	1 5 11 17	
	Delete	Configur	ation Backup	0 days	03 hrs 16 mins		Conta	ict:	1	.3.0.1.4.1.050	. 1. 3. 11. 17	
	Events Viewe	er (2) Configur	ation Update	ras			Locati	ion:				
	t Configuration	Firmwar	e llograde	10								
	H Configuration		e opgrade									
	Tool	•					Apply	1				
	Utters(3)	(7)						1				
	Router/Gatev	vay(2)										
	Group View											



4. The MIB Browser allows you to access device attributes through the interpretation in an MIB file. For example, the MIB file: IES-1248-51V contains the following description:

zyxel	OBJECT IDENTIFIER ::={ enterprises 890 }
products	OBJECT IDENTIFIER ::={ zyxel 1 }
accessSwitch	OBJECT IDENTIFIER ::={ products 5 }
aesSeries	OBJECT IDENTIFIER ::={ accessSwitch 11 }
ies1248_51v	MODULE=IDENTITY
<b>DESCRIPTION</b> '	'IES-1248-51V (3.53(ARY.0)) MIB" ::={ aesSeries 17 }

Administrators can access the attributes through a path in the MIB tree as shown below.

ZyXEL 🛙	NC 1.0							Welcome root   <u>Loq</u>	<u>out</u>	Message Center	? <u>Help</u>
	Configuration	✓ Events ✓	Tool 🗸	Report 🗸	Applic	ation 🗸	Maintenance 🗸				
оту	2	🖵 Configuration	n > MIB Browser								
Q,	Go	📝 Custom Table	Table View	📊 Graph View							
🗉 💿 Root Subnet			- 🗈 ies1248-73	-	SNMP						
🗄 🛟 10.59.0.0			- 🗈 aam1212-51		Version:	v2c 💌					
- 🗘 10.59.1.0	_		- aam 1212-53		Host IP Address:	10.59.1.250		Port Number:	161		
· 🚧 10.59.1.63	40		ies1248-51		MIB:	ZYXEL-MIB			_		
10.59.1.67	40		ies1248-53		Object ID:	1.3.6.1.4.1.8	90.1.5.11.17				Get
10.59.1.20			alc1224-51		Object Type:			Access:			
10.59.1.30			ac1224-53		Max	10		Non Repeaters:	0		
7vXEL 1249	8-51V		t alarmont		Repetitions: Description:				,-		
- I			te in multicast			1					
			🗉 🧰 port		10.59.1.25	): [1.3.6.1.4.	1.890.1.5.11.17]				
Device View			🗉 🧰 profile		Get [	🐊 Get Next	🕞 Get Bulk 🥜	Set 🞻 Clear			
E 🚊 Device Root(4	0)		± 🧰 switch		Name			Value			
🗄 🔳 Host(28)			± 🛑 sys		#	.,010		Vulue			
+ switch(4)			+ 🔲 trap								
± 🔛 Firewall(3)			+ = statistics								
E Conters(3)	(2)		tear								
Router/Gat	eway(2)	+	vesSeries								
Group View		. I 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	vesseries								

5. After clicking an attribute in the MIB tree, the corresponding information will be listed on right side automatically. The Get and Set commands can be used to obtain or change attribute values. For more detailed usage instructions, please refer to the MIB Browser chapter of the User Guide.



#### **Group Firmware Upgrade**

The ENC allows administrators to upgrade firmware of multiple devices simultaneously, cutting down on the required configuration and management time. Advanced management allows administrators to organize multiple devices into groups and then apply the update to whole groups at once. Below are the steps necessary to realize this goal.

- Click **Tool > Device Group**. Click **Add** to display a pop-up dialog and then enter the name (e.g. "ZyXEL\_Switch") and description of the device group.
- 2. Click Add on the Device List section to select the devices which will be managed by this group.

ZYXEL EN						
	Add De	vice Group			×	
оту	De	evice Group				
Root Subnet	Gro	oup Name	ZyXEL_Switch *			
ES-3124PWR GS-4024	De	scription	▲ ▼			
	De	evice List				
		Add				
	#	Device Name	Device Model	Device IP		
	1	GS-4024	GS-4024	10.59.1.199		
	2	ES-3124PWR	ES-3124PWR	10.59.1.50		
4						
🗆 🔙 Device Root(2)						
🗆 🚛 Switch(2)						
ES-3124PW						
GS-4024						
					Cancel Ok	

3. After saving the settings a new device group will appear. The details of the configured group will be shown in Group View.

ZyXEL E	NE 1.0						Welcome root   <u>Loqout</u>	Message Center	? <u>Help</u>
	Configuration 🗸	Events	🗸 🗸 Tool 🗸	Report 🗸	Application 🗸	Maintenance 🗸			
отv	8	🖵 Tool > I	Device Group						
Q	Go	Device G	iroup						
🗆 💿 Root Subnet	•	📀 Add	📝 Edit 🛛 📋 Re	move					
ES-3124PWR	t <b>≪0</b>	□ #	Group Name		Total Device	2	Description		
_			ZyXEL_Switch		2		$\supset$		
•	•								
Device View									
Group View									
Group Root(0)	h(2) WR								

 Before dispatching the firmware file to devices, the administrator might need to check the device firmware version first. This can be done easily by sending a script to the configured group. Click Configuration > Script Distribution for this function.

		NC 1.0						Welcome root   <u>Loqout</u>	Message Center	? <u>Help</u>
		Configuration 🗸	Events 🗸	Tool 🗸	Report 🗸	Application 🗸	Maintenance 🗸			
	оти	> Firmware Upgrade		ice Group						
	Q	<ul> <li>Script Distribution</li> </ul>		0						
	🗆 💮 Root Subnet	> Update/Backup	Add a	🖉 Edit 🛛 💼 Rer	nove					
2	ES-3124PWR	- 40	□ <sub>#</sub> G	roup Name		Total Device		Description		
	_		🗌 1 – Zy	yXEL_Switch		2				
	•									
	Device View									
	Group View									
	Group Root(2)									
	EXTENDED SWITC	h(2) WR								
	GS-4024									

5. Click **Add** to pop-up an edit dialog. Here, enter a name (e.g. "show\_version") for the script rule and an interval value (5) for the pause between performing the command on individual devices.

ZyXEL	EN	IC 1.0						Welcome root   <u>Loqout</u>	Ress	age Center ? <u>Help</u>
	Add 9	Script Dis	tribution						×	
OTV C Root Subr E S-312 IIIII GS-402	Ċ	General S Name Interval Device Li	Setting show_version 5 set	* * 2~60 second						
		₩ 400	Device Name		IP Address		Model Name			No records to view
Device View	Ι.	Comma	nds					B 🖬 🗙		
Group View								<u>^</u>	•	
GS-				_	_	_	_	Cancel	Ok	

6. Click **Add** on the Device List section to select the affected devices. Since we have already configured a device group, we can select the whole group to simplify management.

		Welcome root   <u>Loqout</u> 🔍 <u>Mes</u>	
Add	Script Distribution     General     Name     Interval     Select Devices     Select By     OTV        Device Root     ZyXEL_Switch     Type:     Comme     Comme	me 	1e No records to view
			<u>«</u>

7. Enter the command ("**show version**" in this example) into the Commands field and select the execution schedule time.

	ZyXEl	- E	NE 1.0						Welcome root   <u>Loqout</u>	Messa	i <u>qe Center</u>	? <u>Help</u>
		Add	Script Di	stribution						×		
			□ #	Device Nar	me	IP A	ddress	Model Name				
Prove la	E Root Subr		□ 1	GS-4024		10.5	9.1.199	GS-4024				
	ES-312		□ 2	ES-3124PWR	ર	10.5	9.1.50	ES-3124PWR				
	GS-402											
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	4								- 1-			
			Schedul	e Time								
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	🗆 🚞 ZyXEL									_		
	ES-								_	-		
	i. 📖 GS-								Cancel	Ok		

8. Click **Ok**, and the script will dispatch to the group of devices and execute on scheduled time. Once the task starts, its status will show as "Running".

ZYXEL ENC 1.0							Welcome root   <u>Loqout</u>	Message	Center	<u>Help</u>
– Configuration 🗸		Events 🗸	Tool 🗸	Report 🗸	Application 🗸	Maintenanc	e 🗸			
оту 🍣	- 모	Configuration	> Script Dis	tribution						
Q Go		Script Distribu	tion							
🗆 🌀 Root Subnet		Device Name:					Search			
ES-3124PWR		🕜 Add 🛛 📝 🗄	dit 🛛 <u>व</u> ि Rem	ove 🔍 View Log	3					
" GS-4024		🗆 💥 Status		Name	Dev	rice Amount	Start Time	End Time		
	(	🗌 1 Running	,	show_versio	n 2		2010-08-02 17:06:40	N/A	)	
		re de Page 1	of 1 👞	▶I 10 <del>-</del>					View 1 - 1	of 1
										_
4										
Device View										
Group View										
Group Root(2)										
ZyXEL_Switch(2)										
ES-3124PWR										

9. When the task finishes, the status will change to "Success" and the finishing time will be recorded.

ZyXEL 🗉	NC 1.0						Welcome root   <u>Loqou</u>	t Ressage Center	? <u>Help</u>
	Configuration 🗸	Events 🗸	Tool 🗸	Report 🗸	Application 🗸	Maintenan	ce 🗸		
оту	2	🖵 Configuration	n > Script D	istribution					
Q	Go	Script Distrib	ution						
🗆 💮 Root Subnet		Device Name:					Search		
ES-3124PWR	. 49	🕜 Add 🛛 🧭	Edit 👘 🛅 Re	move 🔍 View Lo	9				
" <b>GS-4</b> 024		🗆 🚆 Statu	s	Name	Devic	e Amount	Start Time	End Time	
		1 Succes	s	show_versio	n 2		2010-08-02 17:06:40	2010-08-02 17:07:06	
		🕡 🤕 Page	l of 1 📷	▶ ▶ 10 ▼				View 1 -	1 of 1
•									
Device View	<u>·</u>								
Group View									
Group Root(2)									
ZyXEL_Swite	h(2)								
ES-3124P	wr 👍								
GS-4024									

10. To check the result, the administrator does not need to log into the individual devices; a complete log of the script execution will be available under the **View Log** button.

ZYXEL ENC 1.0						Welcome root   <u>Loqou</u> t	Message Center	? <u>Help</u>
Configuration 🗸	Events 🗸	Tool 🗸	Report 🗸	Application 🗸	Maintena	nce 🗸		
оту 🍣	모 Configuratio	n > Script Dis	tribution					
C 60 Root Subnet ES-3124PWR 40 Fam 65-4024 40	Script Distribution Device Name:	ution Edit <u>व</u> Rem	ove Q View Lo			Search		
	🗆 🗯 Statu	IS	Name	Device	e Amount	Start Time	End Time	
	▼ 1 Succes	ss	show_versio	n 2		2010-08-02 17:06:40	2010-08-02 17:07:06	
	re 😽 Page	1 of 1 👞	▶1 10 ▼				View 1 -	1 of 1
· · · · · · · · · · · · · · · · · · ·								
Device View								
Group View								
Group Root(2)								

11. The log contains complete results of the script execution and shows the ZyXEL switch ES-3124PWR is running with an old firmware image. Thus the administrator can use the **Firmware Upgrade** feature to upgrade the firmware remotely.



12. Click **Configuration > Firmware Upgrade** to launch the function.

ZyXEL 🖬	NC 1.0							Wel	come root   <u>Loqout</u>	Message Center	? <u>Help</u>
	Configuration 🗸	Events	· v	Tool 🗸	Report 🗸	Applicatio	on v Ma	intenance 🗸			
οτν	> Firmware Upgrade		uratio <mark>n</mark> >	Script Distrit	oution						
۹.	<ul> <li>Script Distribution</li> </ul>		)istrib <mark>utio</mark>	on							
🗆 🛞 Root Subnet	> Update/Backup		ame:						Search		
ES-3124PWR	•	🕢 Add	🕜 Edit	: 📋 Remove	e 🔍 View Log	]					
GS-4024 4		□ #	Status		Name		Device Amo	unt Start	Time	End Time	
		□ 1	Success		show_version	ı	2	2010-0	8-02 17:06:40	2010-08-02 17:07:06	
		14 01	Page 1	of 1 DO DI	10 🗸					View 1	- 1 of 1
Croup View  Group View  Group Root(2)  CyXEL_Switc  Comparison  GS-4024											

13. First, select a firmware file by clicking Add in Configuration > Firmware Upgrade > Firmware List.14. Enter the file path, device model, firmware version and description of the file.

	ZYXEL ENC 1.0				Welco	me root   <u>Loqout</u>	Message Center	? <u>Help</u>
8	Configura	tion ♥ Events ♥ Too Configuration > Firr Firrware List Code Add Firrware Firrware File Path and Name Device Model Firrware Version Description	Neport v mware Upgrade > Firm C: \work\380TY2C0.bir ES-3124PWR 3.80.TY2.C0 Firmware version 3.80 3124PWR	Application v ware List	Maintenance V	×	Search No record	ds to view
	Croup View  Croup View  Croup New  Croup Root(2)  CyXEL_Switch(2)  Common Es-3124PWR				Cance	el OK		

15. After clicking **OK**, the new firmware will be listed in the available firmware pool.

ZYXEL ENC 1.0						Welcome root   <u>Loqout</u>	Message Center	? <u>Help</u>
Configuration 🗸	Events 🗸	Tool 🗸	Report 🗸	Application 🗸	Maintenance 🗸			
оту 🤗	모 Configuration	> Firmware	Upgrade > Firm	ware List				
Q Go	Firmware List	Schedule Li	st					
ES-3124PWR	Firmware List							
	Device Model: Firmware Version	All n: All	•				Search	
	🛈 Add i 👘 F	Remove						
	E # Dev	ice Model		Firmware Ve	ersion	Description		
	1 ES-3	124PWR		3.80.TY2.C0		Firmware versior 312 <del>4P</del> WR	3.80.TY2.C0 for ZyX	EL ES-
	ra 🐟 Page 1	of 1 👞	▶ 10 -				View 1	- 1 of 1
Device View     Group View     Group Root(2)     ZyXEL_Switch(2)     Es-3124PWR     GS-4024     GS-4024								

16. The second step is to schedule the time to perform the firmware upgrade process. Click **Configuration > Firmware Upgrade > Schedule List** and click **Add**.



17. The first dialog lets the administrator select the model name that needs the firmware upgrade.

	ZYXEL ENC 1.0						e Mes	
		<b>Configuration</b> > Firm	ware Upgrade > Sch	edule List				
	Q,Go	Firmware List Sched						
	Root Subnet	Schedule List						
6	GS-4024 <b>(</b>	Device Name:				Search		
		Select Device Model			×			
		Please Select Devic	e Model			Device De	scription	Admin
		Device Model:	-3124PWR -					No records to view
					Cancel Next	1		
	Group Root(2)							

18. The second dialog will list all available firmware for this model, allowing the administrator to select the right image to perform the firmware upgrade.

ZYXEL END	1.0		Welcome root	Loqout Message Center ? Help					
C									
ΟΤΥ	🤗 🖵 Configuratio	n > Firmware Upgrade > Schedule List							
<b>A</b>	Select Firmware			×					
E G Root Subnet	Firmware List	mware List							
ES-3124PWR	# Device Model	Firmware Version	Description						
	1 ES-3124PWR	3.80.TY2.C0	Firmware version 3.80.TY2.C0 for ES-3124PWR	ZyXEL					
				ion Admin					
				No records to view					
•									
Device View	IN OF Page 1 Of 1 IN IN	10 -	View 1	- 1 of 1					
Group View									
Group Root(2)									
ZyXEL_Switch(			Cancel Previo	us Next					
• 🚥 ES-3124PW.				<u>k</u>					
GS-4024									

19. In the third dialog the Administrator needs to select the device he wishes to upgrade to the selected firmware version.

ZYXEL ENC	1.0			
F	rmware Upgrade			×
στν	Fi 🌈 ZyXEL ENC - Windows Internet Explorer	_ 🗆 X		
	F Select Devices			
E Root Subnet E 5-3124PWR E 65-4024	Select By O OTV O Device View O Group View         E         E         Select By O OTV O Device View O Group View         E         Select By O OTV O Device View O Group View	]	escription ion 3.80.TY2.C0 for ZyXEL E	
	De			ion Admin No records to view
Device View Group View	¢ C			
E ZyXEL_Switch( E ZyXEL_Switch( E E E-312#W	Canc	el OK		
- <mark>1828</mark> 65-4024 - 4			Cancel Previous 0	к.

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20. When the firmware file and target devices are ready, the administrator needs to configure the execution time in the **Update Time** section. If Upgrade Now is selected, the firmware will be dispatched to devices immediately after clicking **OK**.

ZVXEL					
Firm	nware Upgrade			×	
στν	Firmware Upgrade				
	Firmware List				
E Root Subnet	Device Model	Firmware Version	Firmware Description		
ES-3124PWR	ES-3124PWR	3.80.TY2.C0	Firmware version 3.80.TY2.C0 for ZyXEL E S-3124PWR	>	
	Device Information				
	Device Model : ES-3124PWR			ion	
	O Add				
	# Device Name		Current Firmware Version		
	1 ES-3124PWR				
	Update Time				
•					
Device View	Upgrade Now				
Group View	C Scheduled Time	* 00 - : 00 -			
E Group Root(2)	Description		<u>_</u>		
🖂 🖂 ZyXEL_Switch(			<b>*</b>		
- ICER ES-3124PW					
L. ISS GS-4024			Cancel Previous	OK	
			Curcer Trends	1.	

21. When the task is finished, the status will show "Success". The Administrator can run the firmware version script again to verify the device firmware has been successfully upgraded. PS.: When upgrading ZyXEL switches, we need to reboot the devices to finish the firmware upgrade process.

		NE 1.0					N	/elcome root   <u>Loqout</u>	Message C	<u>enter</u> ? <u>Help</u>
8	OTV C Root Subnet ES-3124PVR GS-4024	View Log View Log User name: Password:* Copyright Copyright ES-3124PWR Current ES-3124PWR	Events v <u>-ES-31</u> admin *** (c) 1994 - 2 # show versi ZyNOS versic #	Tool V 24FWR( 10. 0010 ZyXEL 0 0010 TyXEL 0 0010 ZyXEL 0 0 0010 ZyXEL 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Report ~ 59.1.50 ) s Communicati Y.2)   6/22 59.1.50 ) f	Application v tarted ons Corp. /2010 inished	Maintenance v		*	:50:09 Jiew 1 - 1 of 1
	Device View Group View Group Root(2) Cytel_Swite Solution GS-4024								▼ Refresh Ok	s