Network Management Solutions

Tested Solution: Network Configuration and Inventory Management using Upgrade Manager

Upgrading the operating system images across a set of network nodes is an irregular event. However, it can be a time-consuming and frustrating process, as it involves large file transfers, device reboots, and precise process steps that are not always easy to remember (for the very reason that they are only irregularly used). Allied Telesis recognises that you do not want to waste time and energy on this particular network management chore, and have provided a tool that turns it into a simple, pleasant process.

This tool, Upgrade Manager, also provides a convenient interface for integrating the Software Upgrade process with the related activities of Network Inventory control and Configuration Script management. Automating these tasks together in a single easy-to-use package significantly enhances the efficiency with which you can manage your Allied Telesis network.

This overview of Upgrade Manager takes you through the capabilities that the tool provides to you, and illustrates the simple steps to use each of the functional components.

The facilities that are presented are:

- Network device discovery
- Device inventory management
- Upgrading Operating System images
- Installing feature licences
- Updating configuration files

Network Discovery – Automated Network Inventory Creation

Upgrade Manager searches the network for Allied Telesis devices, discovers their properties, and creates an easily browsed device inventory.

Help

Rollback Last Operation Profile

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Update Options

Delete old co

Delete curre

🗌 Reboot devid

Upload Paramet

Tools Options

View Tasks

Discover Devices

To initiate this process, choose the menu item Tools->Discover Devices

File Device

Device Familie

M A1-0

🖗 AT-9

😵 AT-9

🍄 AT-x900-24X

🍄 AT-x900-48 🍄 Rapier

😵 SwitchBlade

AlliedWare+

3





This presents a dialog in which you specify the discovery parameters

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ingaraa	on rine op du	Device Dis	scovery		
-Dofault Acc	ace Cattinge				
DelaultAct	ess demnys				
Telnet L	Telnet Login (Account Password) manager friend				
					_
SNMP R	ead Community	Umanage			
Networks					
Discover	IP Address	Netmask	Start IP	End IP	
	192.168.1.0	255.255.255.0	192.168.1.10	192.168.1.10	
	192.168.43.0	255.255.255.0	192.168.43.27	192.168.43.94	
\checkmark	192.168.139.0	255.255.255.0	192.168.139.56	192.168.139.201	
					T
		O Entire Network	Set of Nodes		
	IP Address Netmask				
	Start IP End IP				
	Add Modify Delete				
Start S	3can Cance	1			

Note that the devices to be discovered MUST all be configured with a Telnet login account that has the specified Username/Password, and a SNMP community with the specified name.

You set the discovery running by clicking the "Start Scan" button. Upgrade Manager will run through each of the specified address ranges, looking for Allied Telesis devices.

Processing. Please wait.	×
15 of 111	
Cancel	

When the discovery is complete, the addresses of the discovered devices can be browsed in the "Device Families" box at the top left of the application window. The devices are collected by model:



The discovery process gleans information about each unit, which can be viewed and edited by double-clicking on the device's IP address in the list.

Edit Device 🔀			
**IP Address	192 . 168 . 1 . 106		
**Login Name	manager		
Password	*****		
SNMP Read Community	Umanage		
Timeout	20 🗬		
Retries	3 🗬		
**Device Family	AT-x900-48		
**Device Model	AT-x900-48FE		
**Serial Number	63018031		
**Device Group	X900-48s		
System Name	x900-48FE		
System Description	Allied Telesis x900-48FE AT-8948i version 🛕 2.9.1-08 21-Jun-2007		
Configuration File	x900-48fe.cfg		
Retrieve Info			
Note:			
Fields marked with ** are required. Make sure that the device has telnet capability.			
Apply Cancel			

Adding further units to an existing inventory

Once the device inventory has been created, using the Discovery procedure, individual units can be subsequently added to the inventory, by using the menu item Device->Add Device.



This invokes a dialog box into which you specify the IP address, login details, and SNMP community of the device to add:

Having specified that information, you then click the "Retrieve
nfo" button to instruct Upgrade Manager to interrogate the
device for the other details like Model, Family, Serial Number,
etc. once Upgrade Manager has retrieved that information,
you click the "Add" button, to have the device added to the
appropriate Device Family in the inventory list.

	Add New Device	8	
**IP Address	192 . 168 .	1.33	
**Login Name	manager		
Password	*****		
SNMP Read Community	Umanage		
Timeout		20 🖨	
Retries		3 🖨	
**Device Family			
**Device Model			
**Serial Number			
**Device Group		•	
System Name			
System Description			
Configuration File			
Retrieve Info			
Note: Fields marked with ** are required. Make sure that the device has telnet capability.			
Add Cancel			

Reloading the inventory at start-up

As units are added to the inventory, they are auto-saved to Upgrade Manager's data directory. The information is stored in that directory in groupspecific files - ie all the data on the devices in a specific device group are stored together in a single file for that group.

The inventory is not automatically loaded from those files back into Upgrade Manager as the application starts up; instead, you can choose which device groups you wish to load into the application.

To load a group, or a set of groups, choose the menu item File-> Load Device Groups

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File Device Tools Options Help	
Load Device Groups	ease Unorade (Allie
<u>C</u> lose Device Groups	vara Salastian
Import/Update Devices	
Export Serial Numbers	anse List Filename ≱lesis\AlliedVi
Generate License List File	ease Filename 86s-291.rez
Load Release Upgrade (AlliedWare) Profile	Delate old release files if memory
Load Release Upgrade (AlliedWare+) Profile	Selete old release lines if memory
Load Release Upgrade (Other) Profile	Delete currently installed release t
Load Interim/Maintenance Release Upgrade Profile	Reboot device after updating
Load Patch Upgrade Profile	ad Parameters
Load Configuration File Update Profile	lun I
Load Execute Script File Profile	
Load GUI Resource File Update Profile	stination FLASH
Load Enable Features Profile	Collection .
Load Help File Update Profile	ce selection
Load Reboot Device Profile	
Exit	
operations	Available Devices

From the resulting dialog box, choose which groups you wish to load:

	Load Device G	roups 🛛 🗴
Look <u>I</u> n: 💋 data		- (4) 6) 63 65
 AlliedWare_AT-8600_86 AlliedWare_AT-8600_AT AlliedWare_AT-8800_AT AlliedWare_AT-9900_AT AlliedWare_AT-9900_47 AlliedWare_AT-x900-243 AlliedWare_AT-x900-48 AlliedWare_AT-x900-48 	i00s.grp 8600.grp 8800.grp 9900.grp K_AT-x900-24X.grp _AT-x900-48.grp _X900-48s.grp	 AlliedWare_Rapier_Rapier Set.grp AlliedWare_Rapier_Rapier.grp AlliedWare_Rapier_Rapiers.grp AlliedWarePlus_AT-x600-24_AT-x6 Other_AT-8000_8000S.grp Other_AT-8000GS_8000GS.grp Other_AT-8000GS_AT-8000GS.grp
1	100	
File Name: "Other_AT-8 Files of Type: Device Group	1000GS_8000GS.gr up File (*.grp)	p" "Other_AT-8000GS_AT-8000GS.grp"
		Open Cancel

Upgrading switch Operating System images

A key capability of Upgrade Manager is the ability to automate the upgrading of OS images on multiple switches at once.

As the different device families run different operating system releases, the upgrades need to be performed on a per-device-family basis.

Upgrading an AlliedWare Plus[™] release

For example, a set of x600 switches can have their AlliedWare Plus Operating System upgraded together.

If you click the button "Release Upgrade (AlliedWare+)" in the "Operations" group box at the left of the application window, then the main Pane of the application window is put into a mode that enables you to perform the Alliedware Plus upgrade.

In the main pane, you need to specify:

- The name of the operating system image file
- The IP address of the TFTP server from which it is to be loaded
- The list of IP addresses of the devices to be upgraded

All other items in the pane can be left at default, or set to your requirements.

<u>9</u>	AlliedView-UM v2.0 😢 🔊 🙁
File Device Tools Options Help	
File Device Tools Options Help Device Families AT-AR300 AT-AR400 AT-AR400 AT-AR700 AT-AR700 AT-AR700 AT-AR700S AT-AR700S <t< td=""><td>Release Upgrade (AlliedVVare+) Software Selection Upload Release Filename re-main-20081215-1.rel Upload Delete old release files if memory space is insufficient Upload and set as boot Reboot device after updating Upload Parameters Server 192.168.1.1 Protocol TFTP Destination FLASH Protocol TFTP Device Selection Family Family Group Model AT-x600-24 (AW+) Upload </td></t<>	Release Upgrade (AlliedVVare+) Software Selection Upload Release Filename re-main-20081215-1.rel Upload Delete old release files if memory space is insufficient Upload and set as boot Reboot device after updating Upload Parameters Server 192.168.1.1 Protocol TFTP Destination FLASH Protocol TFTP Device Selection Family Family Group Model AT-x600-24 (AW+) Upload
Operations Release Upgrade (AlliedWare) Release Upgrade (AlliedWare+)	Available Devices Available Devices Selected Devices 192.168.1.107 192.168.1.218 192.168.1.243 <<<<<<<<<<<<>>>
Release Upgrade (Other)	
Interim/Maintenance Release Upgrade	Load Profile Start
Patch Upgrade	
Configuration File Update	
Execute Script File	Operation Logs

Once the required information has been entered, and the options set as you desire, you initiate the upgrade by clicking the Start button. The Upgrade manager will report on the progress of the upgrades.

Operation	n Progress	8		
Release Upgrade (AlliedWare+) Operatio	Release Upgrade (AlliedWare+) Operation in progress			
0 of 3 device(s) done.				
-				
ID Address	Otatua			
192 168 1 107	Loading	-		
192.168.1.218	Idle			
192.168.1.243	Idle			
		_		
Cancel				

When the upgrades are complete, the "Cancel" button on the "Operation Progress" dialog changes to a "Close", and the result of all the upgrades is reported in the dialog.

Operation	Progress	۲	
Release Upgrade (AlliedWare+) Operation is done.			
Total number of selected devices: 3 Successful: 3 Failed: 0			
Please refer to the Operation Logs windo	w for more details.		
IP Address	Status		
192.168.1.107	Successful		
192.168.1.218	Successful		
192.168.1.243	Successful		
Close			

Upgrading 8000S series switches

Upgrading a set of 8000S series switches is also very straightforward.

First, specify the new OS image file, the TFTP server address and the units to be upgraded.

Click the start button, and the upgrade is initiated.

Operatio	n Progress 🛛 🗶			
Release Upgrade (Other) Operation in p	Release Upgrade (Other) Operation in progress			
0 of 0 dovico/c) dono				
١				
	0111			
IP Address	Status			
192.100.1.10				
192.168.1.20				
102.168.1.22				
192.100.1.22	Loading			
192.100.1.23				
192.100.1.24				
192.168.1.26				
192 168 1 27				
Cancel				
Cancer				

When the upgrades are complete, Upgrade Manager reports the results of the upgrades:

Operation	n Progress 🛛 🗴 🗴		
Release Upgrade (Other) Operation is do	one.		
Total number of selected devices: 9 Successful: 9 Failed: 0			
Please refer to the Operation Logs windo	w for more details.		
IP Address	Status		
192.168.1.16	Successful		
192.168.1.20	Successful		
192.168.1.21	Successful		
192.168.1.22	Successful		
192.168.1.23	Successful		
192.168.1.24	Successful		
192.168.1.25	Successful		
192.168.1.26	Successful		
192.168.1.27	Successful		
L			
Close			

Upgrading an Alliedware release

Because the AlliedWare Operating System has a per-unit password for release upgrades, there are a few extra necessary steps in the AlliedWare upgrade process.

First, the Serial Numbers of the units to be upgraded need to be collected. To achieve this, choose the menu item File -> Export Serial Numbers:

	AlliedView-UM v2.0
ile <u>D</u> evice <u>T</u> ools <u>O</u> ptions <u>H</u> elp	
Load Device Groups Close Device Groups	ease Upgrade (AlliedWa
Import/Update Devices	
Export Serial Numbers	ease Filename r6-main-20081215-1.rel
<u>G</u> enerate License List File Load Release Upgrade (AlliedWare) Profile Load Release Upgrade (AlliedWare+) Profile	Delete old release files if memory space is Reboot device after updating
Load Release Upgrade (Other) Profile Load Interim/Maintenance Release Upgrade Profile Load Patch Upgrade Profile Load Configuration File Update Profile	ad Parameters ver 192.168.1.1 stination FLASH
Load Execute Script File Profile Load GUI Resource File Update Profile Load Enable Features Profile	ce Selection nily Group -x600-24 (AWY+) 💽
Load Reboot Device Profile	Available Devices
Exit	
Interim/Maintenance Release Upgrade	

Export

×

	Export Serial No	umbers	
Device Selection			
Family	Group	Model	
Rapier	Rapier S	et 💌	[
Available Devices		Selected Devices	
192.168.1.100	>>		
192.168.1.101			
192.168.1.102			

Cancel

In the resulting dialog box, choose the device family, and group of devices that you wish to upgrade:

	Export Serial Numbers	8
Device Selection Family Rapier Available Devices Export Cancel	Group Model Rapier Set ▼ Selected Devices 192.168.1.100 192.168.1.101 192.168.1.102 <<< <	

<<

<

Click the Export button, and choose a name for the file in which to store the serial numbers:

	Save Serial Numbers					۲
Save <u>I</u> n: 💋	export	•		6	1	
File <u>N</u> ame:	rapier serials					
Save as <u>T</u> ype	Text File (*.txt)					-
			Save		0	ancel

Then, to create a software upgrade licences, the file of serial numbers can be sent to Allied Telesis, and a set of licence enabling commands received in return.

The licences can be entered into Upgrade Manager by choosing the menu item File-> Generate Licence List File.

à	AlliedView-U
File Device Tools Options Help	_
<u>L</u> oad Device Groups <u>C</u> lose Device Groups	ease Upgrade (All
Import/Update Devices Export Serial Numbers	ense List Filename
<u>G</u> enerate License List File	ease Filename
Load Release Upgrade (AlliedWare) Profile Load Release Upgrade (AlliedWare+) Profile Load Release Upgrade (Other) Profile Load Interim/Maintenance Release Upgrade Profile	Delete old release files if memo Delete currently installed releas Reboot device after updating
Load Patch Upgrade Profile	ad Parameters
Load Configuration File Update Profile Load Execute Script File Profile	ver
Load GUI Resource File Update Profile Load Enable Features Profile	stination FLASH
Load Help File Update Profile Load Reboot Device Profile	nily
Exit	hunitakia Davia

Each of the licence enabling commands are pasted into the resulting dialog box.

Generate License List File	×
 Release License Feature License 	1
Paste Enabling Commands Here 41905460 enable rel=86s-291.rez num=2.65545 pass=5327E55DE275 42091446 enable rel=86s-291.rez num=2.65545 pass=D2E92BDC188F 57478228 enable rel=86s-291.rez num=2.65545 pass=8BA16385E473	
OK Cancel	

Click OK, and Upgrade Manager will then enable you to save the licences to an XML file:

Serial Number	Release Filename	Version	Password	
41905460	86s-291.rez	2.9.1	5327E55DE275	-
42091446	86s-291.rez	2.9.1	D2E92BDC188F	
57478228	86s-291.rez	2.9.1	8BA16385E473	
Save	ncel			

	Save License Lis	t File	8
Save <u>I</u> n: 💋	license	- 🐼 🖸) 😢 🖼 🖾
RAPIERS.	rml		
File <u>N</u> ame:	RAPIERS2.xml		
Files of <u>T</u> ype:	XML Files (*.xml)		•
		Save	Cancel

When the saving of the file is complete, Upgrade Manager offers to take you straight to the AlliedWare OS upgrade process:



From there, the upgrading of the units proceeds similarly to the process for AlliedWare Plus and 8000S series switches.

The file containing the licences must be specified. That will automatically identify the new OS image file. You need to specify the TFTP server, and the list of units to be upgraded:

8	AlliedView-UM v2.0	2 A X
File Device Tools Options Help		
Device Families	Release Upgrade (AlliedWare) Software Selection License List Filename elesistAlliedView-UMIlicensetRAPIERS2.xml Release Filename elesistAlliedView-UMIlicensetRAPIERS2.xml Delete old release files if memory space is insufficient Delete currently installed release file if memory space is insufficient Reboot device after updating Upload Parameters Server 192.168.1.9 Destination FLASH Device Selection	Upload Upload and enable Upload and set as temporary Upload and set as preferred totocol TFTP
Y → 192.168.1.117 Y AT-x900-12X ✓ Operations Release Upgrade (AlliedWare) Release Upgrade (AlliedWare+) Release Upgrade (Other) Interim/Maintenance Release Upgrade	Family Group Model Rapier V Rapier Set	es
Patch Upgrade	Load Profile Save Profile	Schedule Start
	r Operation Logs-	er e e e e e e
Execute Script File		
GUI Resource File Update		
Enable Features		
Help File Update		
Reboot Device		

Click the start button to initiate the upgrades.

Installing feature licenses

The process of installing feature licences is quite similar to the initial steps of performing a software upgrade.

Begin by creating a serial number list:

Load Device Lools Options Help Load Device Groups Close Device Groups Import/Update Devices Export Serial Numbers	ble Features vare Selection ense List Filename C:1Program Files
Generate License List File Load Release Upgrade (AlliedWare) Profile Load Release Upgrade (AlliedWare+) Profile Load Release Upgrade (Other) Profile Load Interim/Maintenance Release Upgrade Profile Load Patch Upgrade Profile Load Configuration File Update Profile Load GUI Resource File Update Profile Load Features Profile Load Release Upgrade Profile	iture AT-BGP ce Selection nily pier
Exit	ad Profile Save Profile

This menu item invokes the "Generate Licence List File" dialog.

For each switch that the licence is to be installed into, paste a line into the dialog of the form

<device serial number> enable feature=<feature name> password=<Password>

where the password is obtained from WebGen, or provided to you by some other means.

Generate License List File	×
Release License Feature License Paste Enabling Commands Here 42091446 enable feature="AT-BGP" pass=F23D1C7D8034841C7D8018 20491664 enable feature="AT-BGP" pass=23FD1C78D3055567GHSFK6 50382775 enable feature="AT-BGP" pass=23FD1C78D3055567GHSFK6 30203888 enable feature="AT-BGP" pass=2YFHH8D3055567498HFTY9	~
OK Cancel	

When a line has been added for each device into which you wish to install the licence, click the "OK" button.

	Feature Licenses		
Serial Number	Feature Name	Password	
42091446	AT-BGP	F23D1C7D8034841C7D8018	
20491664	AT-BGP	23FD1C78D3055567GHSFK6	
50382775	AT-BGP	HSGTY8D30555HGFDGNHG7	
30203888	AT-BGP	2YFHH8D3055567498HFTY9	
			T
Save Cancel			

Click the Save button, and you are offered the opportunity to name the file into which the list of licences will be saved

	Save License I	List File	8
Save <u>I</u> n: 💋	license	- 🕢 🚱 😢	
RAPIERS)	kml Exml		
File <u>N</u> ame:	RapierFeattxml		
Files of <u>T</u> ype:	XML Files (*.xml)		-
		Save	Cancel

Once the list of licences have been saved to a file, the system offers you the opportunity to proceed straight to enabling features.



Click OK, and the licences are verified once more, and then installed into the devices:

%	Summary Report	K 2 8
Info		
***Verify licenses		
40001440	The device has been usuified	
20491664:	The device has been verified.	
50382775:	The device has been verified.	
30202888:	The device has been verified.	
Error		
Save	Close	

X

Operation Progress

Enable Features Operation is done.

Total number of selected devices:4 Successful: 4 Failed: 0

Please refer to the Operation Logs window for more details.

IP Address	Status
192.168.1.100	Successful
192.168.1.101	Successful
192.168.1.102	Successful
192.168.1.103	Successful

Close

Updating configuration files

To configure a device with a new configuration file, proceed as follows.

First, double-click the device in the inventory list in the left-hand pane to bring up the dialog for editing the device properties.

Edit Device 😣		
**IP Address	192 . 168 . 1 . 100	
**Login Name	manager	
Password	******	
SNMP Read Community	Umanage	
Timeout	20 🗬	
Retries	3 🖨	
**Device Family	Rapier	
**Device Model	Rapier 24i	
**Serial Number	42091446	
**Device Group	Rapier Set	
System Name	Rapier 1	
System Description	Allied Telesis AT-RP24i Rapier 24i version Allied 2.9.1-15 20-May-2008	
Configuration File	rapier1.cfg	
Retrieve Info		
Note: Fields marked with ** are required. Make sure that the device has telnet capability. Apply Cancel		

Click the ellipsis beside the Configuration File name to bring up a dialog in which to browse for the new configuration file.

	Open			*
Look <u>I</u> n: 💋	releases	•	🕼 🙆 🕅	
 8000gs.cfg 8948-2.cfg 89481.cfg 9924-2.cfg 99241.cfg 99245Ps.c newconf.cfg um.cfg 	g 🗋 x600-1.cfg :fg ig			
File <u>N</u> ame:	newconf.cfg			
Files of <u>T</u> ype:	Configuration File (*.cfg)			•
			Open	Cancel

Edit Device 🛞			
**IP Address	192 . 168 . 1 . 100		
**Login Name	manager		
Password	*****		
SNMP Read Community	Umanage		
Timeout	20 🗬		
Retries	3 🖨		
**Device Family	Rapier		
**Device Model	Rapier 24i		
**Serial Number	42091446		
**Device Group	Rapier Set		
System Name	Rapier 1		
System Description	Allied Telesis AT-RP24i Rapier 24i version Allied 2.9.1-15 20-May-2008		
Configuration File	newconf.cfg		
	Retrieve Info		
Note:			
Fields marked with ** are required. Make sure that the device has telnet capability.			
Apply Cancel			

Once the new file has been chosen, click apply to install the file

Opera	tion Progress	8
Configuration File Update Operation is	s done.	
Total number of selected devices: 1 Successful: 1 Failed: 0		
Please refer to the Operation Logs wir	ndow for more details.	
IP Address	Status	
Close		

\

Viewing a device's audit trail

An important element in network change control, and problem resolution, is the ability to call up a history of the actions that have been performed on network elements.

Upgrade manager maintains an audit trail of the actions it has performed on each network node, and provides a convenient mechanism for viewing a device's audit trail.

The see the audit trail for a device, right-click on the device in the left-hand pane.

In the resulting pop-up menu, choose the item "View device audit trail"

%				
File Device Tools Options	<u>H</u> elp			
Price Device Tools Options Help Device Families 192.108.1.30 (8824-1) Image: State St		Configuration File Update Update Options Delete old configuration files if memory spa Delete currently used configuration file if me Reboot device after updating Upload Parameters Server 192.168.1.9 Destination FLASH		
	Delete			
Rapier	View Device	e Audit Trail		
	Rollback La	ast Operation		
Coperations				
Release Upgrade (AlliedW	are)			
Release Upgrade (AlliedWa	are+)			
Release Upgrade (Othe	n			

This will present a list of the actions that have been performed on that device:

🖕 Device Audit Trail - 192.168.1.100 🖉 🧷				
Date	Operation	Operation Properties	Result	
Mon Feb 09 14:48:14 NZDT 2009	Configuration File Update	Delete=All Server=192.168.1.9 Destination=FLASH Protocol=TFTP Reboot=No Install=Upload	*** Operation is successful.	
Mon Feb 09 14:04:13 NZDT 2009	Enable Features	Feature="AT-BGP" License_File="C:\Program Files\Allied Telesis\AlliedView-UM\lice nse\RapierFeat.xml"	*** Operation is successful.	
Mon Jan 26 15:56:55 NZDT 2009	Configuration File Update	Delete=No Server=192.168.1.9 Destination=FLASH Protocol=TFTP Reboot=No Install=Upload	*** Operation failed.	
Mon Dec 15 17:01:38 NZDT 2008	Interim/Maintenance Release Upgrade	Filename=86291-17.rez Delete=All Server=192.168.1.1 Destination=FLASH Protocol=TFTP Reboot=Yes Install=Preferred	*** Operation is successful.	
Close				

About Allied Telesis Inc.

Allied Telesis is a world class leader in delivering IP/Ethernet network solutions to the global market place.We create innovative, standardsbased IP networks that seamlessly connect you with voice, video and data services.

Enterprise customers can build complete end-to-end networking solutions through a single vendor, with core to edge technologies ranging from powerful 10 Gigabit Layer 3 switches right through to media converters.

Allied Telesis also offer a wide range of access, aggregation and backbone solutions for Service Providers. Our products range from industry leading media gateways which allow voice, video and data services to be delivered to the home and business, right through to high-end chassis-based platforms providing significant network infrastructure.

Allied Telesis' flexible service and support programs are tailored to meet a wide range of needs, and are designed to protect your Allied Telesis investment well into the future.

Visit us online at www.alliedtelesis.com

USA Headquarters | 19800 North Creek Parkway | Suite 100 | Bothell | WA 98011 | USA | T: +1 800 424 4284 | F: +1 425 481 3895 European Headquarters | Via Motta 24 | 6830 Chiasso | Switzerland | T: +41 91 69769.00 | F: +41 91 69769.11 Asia-Pacific Headquarters | 11 Tai Seng Link | Singapore | 534182 | T: +65 6383 3832 | F: +65 6383 3830

www.alliedtelesis.com

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