

# Autonomous Management Framework (AMF)

**Automate and simplify network management.**  
**Save time. Save money.**

Allied Telesis Autonomous Management Framework™ (AMF) is a scalable network management and automation solution for Allied Telesis switches and firewalls.

AMF perfectly integrates with Vista Manager EX, our graphical monitoring and management platform for seamless visual administration of all devices—which as well as the intuitive GUI that enables proactive management, also makes the full AlliedWare Plus OS command set available for any device.

AMF automation and management can be deployed locally or in the cloud.

## Business value through automation

Realize immediate business value with centralized network management treating any size network as a single converged entity. This reduces cost and complexity by delivering:

- ▶ **Centralized management** of many or all devices right across the network—locally or world-wide.
- ▶ **Network automation**, with zero-touch or one-touch backup, provisioning, upgrade, and recovery.
- ▶ **Network intelligence** reacts to changes in the network and automatically changes the topology.
- ▶ **Smart commands** allow network problems to be quickly identified and issues resolved.

Reduce operating costs dramatically as AMF saves time, resource, and money.

## Simplify your network

Powerful management capabilities are simple to use. An entire network can be centrally managed, live network status can be monitored using Vista Manager, and actionable reporting enables timely issue resolution.

AMF reduces the time and skill required to maintain the network. Configuration and firmware files are regularly backed up, failed devices are automatically regenerated, and multiple devices can be configured at once.

For peace of mind, secure-mode increases security with management traffic encryption, authorization, and monitoring.

## Fully scalable

AMF can manage networks that span the campus or the continent, supporting business growth in local and remote locations with plug-and-play simplicity.

Automated management for up to thousands of devices enables today's smarter cities and the Internet of Things (IoT).



**AMF™** **VISTA MANAGER™ EX**

**AlliedWare Plus™**  
OPERATING SYSTEM

## Flexible deployment

AMF can be deployed with network management and automation integrated into Allied Telesis switching and/or firewall hardware.

Alternately, AMF Cloud offers all of the functionality of integrated hardware-based management, with the advantages of private or public cloud access and flexibility. AMF Cloud multi-tenant provides a high value solution for large distributed businesses, as well as service providers offering network management services.

## Key Features

### AMF automation

- ▶ Centralized management of all devices
- ▶ Peace of mind networking with auto-backup
- ▶ Update the network with auto-upgrade
- ▶ Plug-and-play expansion with auto-provisioning
- ▶ Zero-touch replacement with auto-recovery

### AMF management and control

- ▶ Graphical monitoring with Vista Manager EX
- ▶ Multi-site business support across the WAN
- ▶ Large network support with AMF Controller
- ▶ Cloud-based management with AMF Cloud
- ▶ Multi-tenant support on AMF Cloud
- ▶ 3rd party device support for AMF Guests

## Key Features - AMF Automation

AMF is a sophisticated suite of management tools that provide a simplified approach to network management. Powerful features like centralized management, auto-backup, auto-upgrade, auto-provisioning, and auto-recovery, enable plug-and-play networking and zero-touch management.

### Centralized management

- ▶ Centralized management enables CLI commands to be run on multiple devices simultaneously. Commands are issued only once and AMF ensures that they are received and processed by each device. This saves time and reduces the chance of mistakes when configuration changes need to be made across several devices. Any configuration change, monitoring request or debugging of the network can be made to one, many, or all devices with a single command.

**“Configuration changes that were taking 2 hours previously, can now be done in just 10 minutes with AMF.”**

— Southern Institute of Technology

### Auto-backup

- ▶ AMF auto-backup reduces effort and the risk of errors by automatically managing the configurations for all devices in the network. Every day, AMF automatically backs up the configurations and firmware for the entire network into a central library, which can be located locally on the Master device, on a server, or fully online with AMF Cloud. Backups can also be created manually after configuration changes. Up-to-date firmware and configuration information is always available for all devices.

### Auto-upgrade

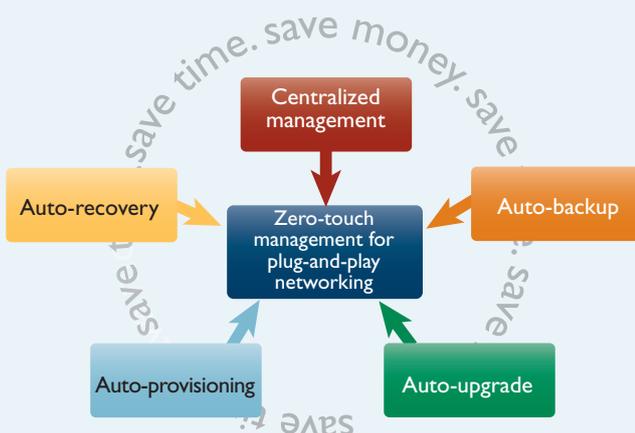
- ▶ Firmware upgrades can be rolled out to groups of devices or the entire AMF network quickly and easily with auto-upgrade. The user simply selects the group of devices to be upgraded, then issues the CLI commands to load the new firmware release. Each device in the group will download the files in preparation for a reboot.
- ▶ Rather than having to reboot all devices in the group at the same time, AMF can use rolling reboot so only one device reboots at a time, maximizing network uptime during the firmware upgrade process.

### Auto-provisioning

- ▶ Allows unconfigured devices to be added directly into the network as AMF can pre-provision a device even before it is present. This allows zero-touch expansion of the network, as devices can be easily added and AMF automatically selects the correct configuration. If a new device has not been pre-provisioned, then AMF isolates the device until it has been successfully configured either automatically or manually by the user.

### Auto-recovery

- ▶ Replacing a failed device is truly zero touch with auto-recovery. The replacement device needs no configuration, other than a physical connection to the network. As soon as the device is powered up, AMF automatically reconfigures it using the latest back-up of its firmware and configuration.
- ▶ When an old model device fails, or is due for updating, it can be replaced with a newer model of similar hardware specification. Simply plug in the new model AMF device and it will automatically receive the right firmware, licenses, and configuration from the Master. This enables plug-and-play replacement for end-of-life products.



For more information on specific device replacement options for a given model, see the AMF feature overview guide: <https://www.alliedtelesis.com/nz/en/documents/amf-feature-overview-and-configuration-guide>

## Key Features - AMF Management and Control

The power of AMF extends beyond simplifying and automating network administration. With features such as graphical monitoring and management through Vista Manager EX, large global network support, and cloud-based network control, AMF provides a powerful and comprehensive solution. You can try AMF for free (managing up to 3 devices) with the AMF starter license.

### Vista Manager EX

- ▶ Vista Manager EX provides visual management of all AMF controlled switches and firewalls, and with our other tools, wireless APs and third-party devices too. Actionable reporting highlights any problems requiring attention, while multiple network map views support easy monitoring and proactive management. Intuitive usability and at-a-glance status is partnered with detailed device and network information—all just a click away.



### Multi-site support

- ▶ The benefits of AMF are not limited to the LAN. AMF networks can also tunnel across the Internet so that devices in remote locations can be easily managed from a central location—perfect for multi-site businesses. The tunneled links can even reach across external (non AMF) routers for complete deployment flexibility.
- ▶ Remote offices can be connected to a head office with encrypted connections for secure company-wide network management. Any size AMF network can extend across different locations and different time zones.

### AMF Controller

- ▶ An AMF network with a single Master can support up to 300 devices. For larger networks, the AMF Controller extends the benefits of AMF to thousands of devices. It

enables time and money to be saved on a much larger scale, as the entire network (whether local, city-wide, or global) takes advantage of centralized management, and automated network back-up, upgrade, provisioning, and recovery.

### AMF Cloud

- ▶ AMF Cloud allows the AMF Master and/or Controller to be virtual appliances, rather than integrated into an Allied Telesis switch or firewall. AMF Cloud offers all of the functionality of integrated hardware-based AMF management, with the advantages of cloud-based access and flexibility. Powerful benefits include:
  - ▶ **Flexible deployment** with private or public cloud installation—use your own local server, or deploy fully online with Amazon Web Services or Microsoft Azure.
  - ▶ **Integrated option** as part of the Vista Manager Network Appliance.
  - ▶ **Scalable** with licensing options for any size network.
  - ▶ **Lower cost of entry** with no dedicated hardware requirements.
  - ▶ **Reduce costs** with simple pay-as-you-go.
  - ▶ **Web-based interface** for remote network monitoring and management anywhere at anytime.
  - ▶ **Peace of mind networking** with a full back-up stored in the cloud.
  - ▶ **Eco-friendly** as cloud deployment requires no rack space, cooling or power.

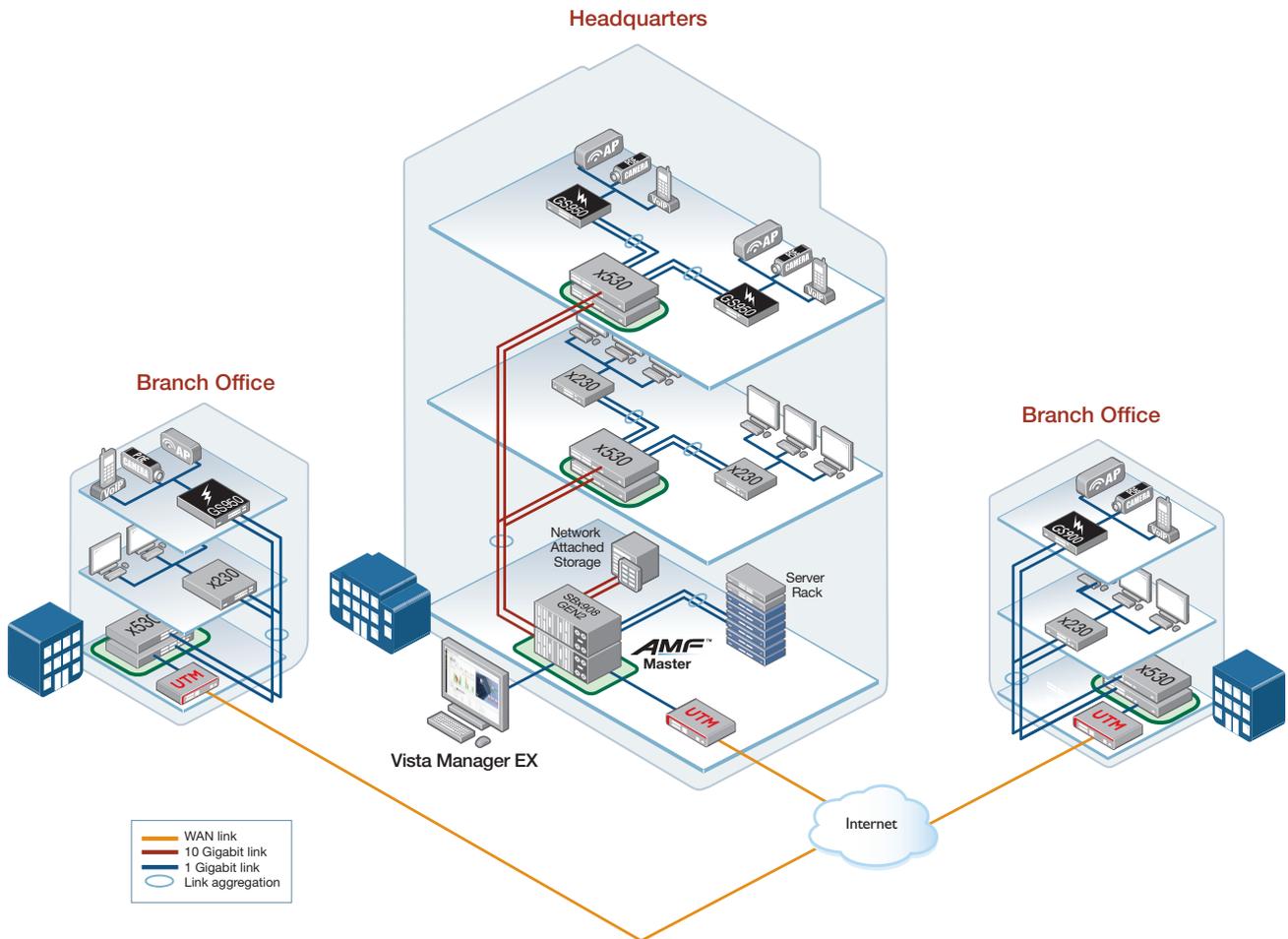
### Multiple tenants on AMF Cloud

- ▶ Support up to 120 tenants on AMF Cloud. Each tenant network is kept separate from other tenant networks for fully flexible deployment, with central or individual network management options. As an AMF Master capable device is not required in every location, AMF multi-tenant provides a high-value solution for large distributed companies, as well as service providers offering network provisioning and/or management services.

### AMF Guests

- ▶ AMF guestnode allows non-AMF switching products, as well as third-party devices such as IP phones and security cameras, to be part of an AMF network. AMF guests are recognized by the network and displayed in Vista Manager, providing a broader view of connected devices.

## Key Solution - Enterprise AMF



### Enterprise AMF network

Today's enterprise businesses demand always-on access to online resources and applications, and require a high performing network that can seamlessly carry multiple converged services.

Businesses of all sizes will benefit greatly from the power and simplicity of AMF, which unifies management of the entire network, and supports plug-and-play networking with zero-touch expansion and recovery.

The multi-site enterprise shown in the diagram has a powerful SwitchBlade x908 GEN2 Series stack in the core for high availability. This acts as the AMF Master, automatically backing up the rest of the Allied Telesis switching and firewall products, including devices located remotely across WAN links. Any device in any location can be easily upgraded or replaced simply by plugging it in. Centralized management allows configuration or monitoring to be carried out on many, or all, devices at once.

Vista Manager EX provides graphical monitoring and management of the AMF network, and has plugins available to support the management of wireless and third-party devices. For more information visit:

[alliedtelesis.com/products/software/vistamanager](http://alliedtelesis.com/products/software/vistamanager)

**"We use AMF to perform centralized management, which is extremely efficient and effective. I can now successfully administer and manage a large, highly-available network with a very small IT team."**

**—Kanaiwa Hospital**

## Key Solution - Smart City Surveillance

### Smart city AMF surveillance network

All over the world, smart cities are looking to increase information availability, security, and transport efficiency to enhance the quality of urban services, while increasing the safety of citizens.

The city-wide surveillance network in the diagram shows digital cameras that can be deployed at bus stops, train stations, intersections and other public spaces. High-speed Allied Telesis resilient ring technology guarantees live access to all video feeds. This real-time video data helps increase the efficiency of public transport, as well as the safety of the commuting environment for passengers, visitors and city workers.

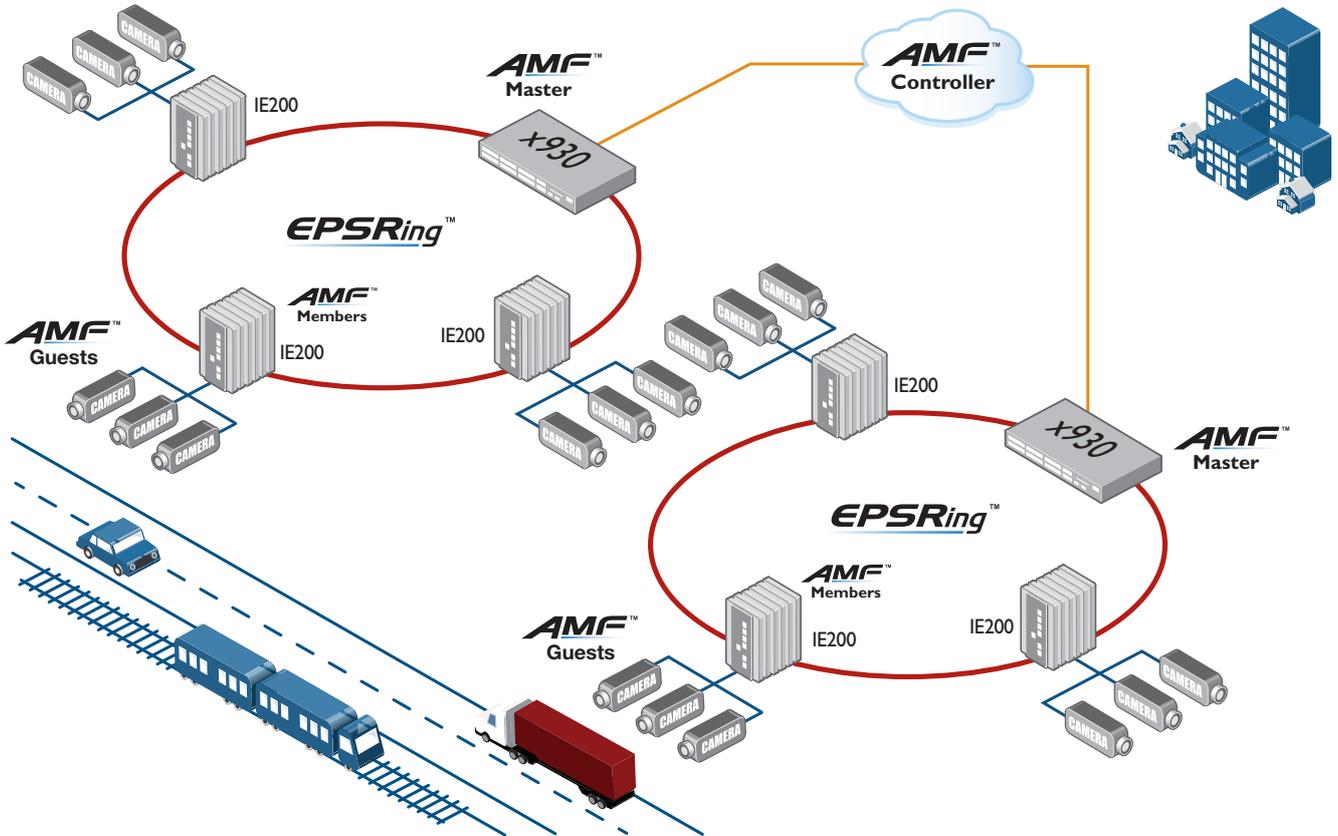
With AMF Cloud, the network controller is a virtual appliance, providing the advantages of cloud-based access and flexibility. A full up-to-date backup of the network is always stored in the cloud, enabling plug-and-play roll-out of new network devices, and zero-touch recovery.

As AMF guests, the surveillance cameras are part of the broad view of connected devices. The power of AMF provides the ability to configure many or all network devices city-wide with a single command.

AMF integrates with Vista Manager EX to support network managers in delivering advanced online services, with powerful single-pane-of-glass network visibility simplifying administration.

**“AMF provides integrators with a simpler and more efficient way of delivering a managed network service to their customers.”**

**—Spark Digital, Systems Integration**



AMF product compatibility and licensing matrix

| NAME                                   | AMF NODE | AMF MASTER   | Free starter license | AMF CONTROLLER |
|--|----------|--|----------------------|----------------|
| Switches                               |          |  |                      |                |
| CentreCOM FS980M Series <sup>1</sup>   | ■        | -  |                      | -              |
| CentreCOM GS900MX Series <sup>1</sup>  | ■        | -  |                      | -              |
| CentreCOM GS970M Series <sup>1</sup>   | ■        | -  |                      | -              |
| CentreCOM GS970EMX Series <sup>1</sup> | ■        | -  |                      | -              |
| CentreCOM GS980M Series <sup>1</sup>   | ■        | -  |                      | -              |
| CentreCOM GS980EM Series <sup>1</sup>  | ■        | -  |                      | -              |
| CentreCOM GS980MX Series <sup>1</sup>  | ■        | -  |                      | -              |
| CentreCOM XS900MX Series <sup>1</sup>  | ■        | -  |                      | -              |
| IE200 Series                           | ■        | -  |                      | -              |
| IE210L Series                          | ■        | -  |                      | -              |
| IE300 Series                           | ■        | -  |                      | -              |
| IE340 Series                           | ■        | -  |                      | -              |
| IE510 Series                           | ■        | -  |                      | -              |
| x220 Series                            | ■        | -  |                      | -              |
| x230 Series                            | ■        | -  |                      | -              |
| x310 Series                            | ■        | -  |                      | -              |
| x320 Series                            | ■        | -  |                      | -              |
| x330 Series                            | ■        | -  |                      | -              |
| x530L Series                           | ■        | <b>AT-SW-AM10-1YR</b> AMF Master for up to 10 nodes<br><b>AT-SW-AM10-5YR</b> AMF Master for up to 10 nodes (supports a maximum of 20 nodes)  | ■                    | -              |
| x530 Series                            | ■        | <b>AT-SW-AM10-1YR</b> AMF Master for up to 10 nodes<br><b>AT-SW-AM10-5YR</b> AMF Master for up to 10 nodes (supports a maximum of 40 nodes)  | ■                    | -              |
| x550 Series                            | ■        | <b>AT-SW-AM10-1YR</b> AMF Master for up to 10 nodes<br><b>AT-SW-AM10-5YR</b> AMF Master for up to 10 nodes (supports a maximum of 40 nodes)  | ■                    | -              |
| x930 Series                            | ■        | <b>AT-SW-AM10-1YR</b> AMF Master for up to 10 nodes<br><b>AT-SW-AM10-5YR</b> AMF Master for up to 10 nodes (supports a maximum of 120 nodes) | ■                    | -              |

<sup>1</sup> CentreCOM products support AMF edge. AMF edge is for products used at the edge of the network, and only support a single AMF link. They cannot use cross links or virtual links.



| NAME   | AMF NODE | AMF MASTER  | Free starter license | AMF CONTROLLER   |
|--|----------|---|----------------------|--|
| Switches   |          |   |                      |  |
| x950 Series  | ■        | AT-SW-AM10-1YR AMF Master for up to 10 nodes<br>AT-SW-AM10-5YR AMF Master for up to 10 nodes<br>(supports a maximum of 180 nodes) | ■                    |  |
| SwitchBlade x908 GEN2                                | ■        | AT-SW-AM10-1YR AMF Master for up to 10 nodes<br>AT-SW-AM10-5YR AMF Master for up to 10 nodes<br>(supports a maximum of 300 nodes) | ■                    | AT-SW-AC10-1YR AMF Controller for up to 10 areas<br>AT-SW-AC10-5YR AMF Controller for up to 10 areas<br>(supports a maximum of 60 areas) |
| SwitchBlade x8100 series with CFC960 controller card | ■        | AT-SW-AM10-1YR AMF Master for up to 10 nodes<br>AT-SW-AM10-5YR AMF Master for up to 10 nodes<br>(supports a maximum of 300 nodes) | ■                    | AT-SW-AC10-1YR AMF Controller for up to 10 areas<br>AT-SW-AC10-5YR AMF Controller for up to 10 areas<br>(supports a maximum of 60 areas) |
| Firewalls and Routers                                |          |   |                      |  |
| AR1050V  | ■        | -   |                      | -  |
| AR2010V  | ■        | -   |                      | -  |
| AR2050V  | ■        | -   |                      | -  |
| AR3050S  | ■        | -   |                      | -  |
| AR4050S  | ■        | AT-RT-AM5-1YR AMF Master for up to 5 nodes<br>AT-RT-AM5-5YR AMF Master for up to 5 nodes<br>(supports a maximum of 20 nodes)      | ■                    | -  |
| 10G UTM Firewall                                     | ■        | -   |                      | -  |

For AMF Cloud licensing information and server specifications, please see the AMF Cloud datasheet available from [alliedtelesis.com/documents/datasheet-amf-cloud](http://alliedtelesis.com/documents/datasheet-amf-cloud)

To find out more about AMF and how it can improve your network, please contact your local Allied Telesis sales office or visit us online at [alliedtelesis.com/amf](http://alliedtelesis.com/amf)