sNGA Secure Network Gateway Adaptor

The sNGA is Avara's secure network gateway adaptor used to securely manage Q1 equipment from Avara and Nokia as well as non secure serial and IP based network elements using industry standard secure protocols.

The sNGA transforms Q1 based Network Elements into an IP accessible devices and replaces legacy Service Terminals, DCNAs, Q1 agents.

It also transforms network elements with Serial interfaces to IP connectable devices using secure terminal server functionality over TCP or UDP as well as transforming non secure IP managed devices into secure Network Elements using VPN protocols.

The sNGA provides a secure Q1 management solution for Avara's DynaFlex DB4, DXC, and DFX products and Nokia's Dynanet Family of PDH products including DB2, DM2, DN2 and microwave radio.

The sNGA enables network operators to deploy secure management connections to their Q1 managed networks over an IP network. It also provides an upgrade path from legacy Q1 management solutions that are currently provided using Nokia DCNA + Q1 Agent or Nokia MF devices.

The core function of the sNGA is to collect alarms, inventory and Q1 management information from Q1 managed network elements in the field. This is forwarded securely over an IP network to Avara's ASPeCT network management system and other 3rd-party network management platforms using industry standard security protocols (SSH, HTTPs, SNMP V3, SCP and RADIUS).

The sNGA can be installed in a DynaFlex or Dynanet chassis. Each card provides four Q1 bus connections to connect up to 200 Q1 managed network elements per bus supporting a maximum of 800 NE's per sNGA.

The sNGA supports both unprotected and protected Q1 bus modes.Q1 alarms received from a Q1 Network Element (NE) are converted to SNMP traps and forwarded to Avara's ASPeCT network management system.

Current and historical alarms of each NE can be viewed and retrieved using ASPeCT NBI interface.

Inventory information from Q1 Network Element (NE's) is made available through the Avara ASPeCT NBI (North bound Interface).

The sNGA also provides an integrated STE (Service Terminal Emulator) interface over SSH that can be used to configure and view any Q1 network element connected to the four Q1 buses provided.

The sNGA can be managed using SSHv2, Telnet and SNMP.

Additionally, Avara's ASPeCT Element Manager can be used to manage the sNGA over an encrypted connection for secure access.
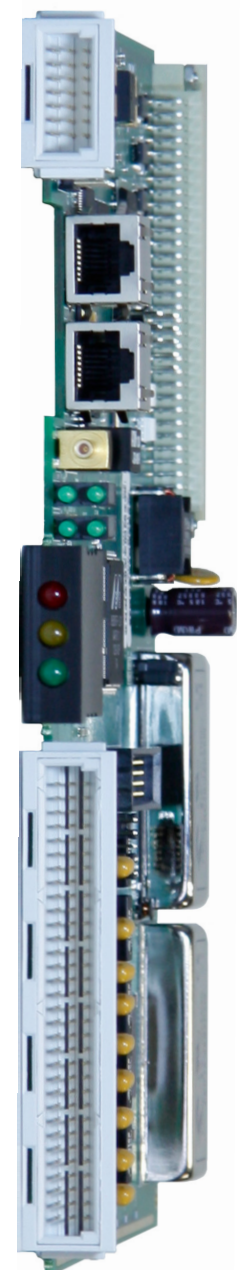
When AAA servers are available, RADIUS can be used for centralised user access management. Multiple servers are supported enabling administrators to implement their corporate security policies to meet statutory obligations associated with the protection of Critical Infrastructure against cyber threats.

Remote software download and unit configuration using TFTP & SFTP is available as is a comprehensive set of SNMP traps and alarms for fault management.

Technical Highlights
Key Features
- 8 x V.11 Interfaces
- 2 x 10/100Base-T
- 4 x Q1 busses with protected bus support
- Pluggable into DynaFlex & Dynanet mechanics
- RADIUS for AAA support
- Alarm & Event logging via Syslog
- Manageable via Q1, Telnet, SSHv2, SNMP V1/V2C/V3 & ASPeCT
- -20 to -72 VDC Power Supply
- -20 to +65 °C operation

**sNGA Unit
Single Slot
Unit Shown**

Technical Specifications

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Model Order Code		Mechanical	
P61511.01	sNGA with 2x10/100Base-T	Height-Depth-Width	233 x 160 x 25mm

Q1/V.11 Interfaces		Power	
Number of buses	4	Power Supply	-20 to -72 VDC
Protected Operation	Yes	Power Consumption	12 W (Max)
Number of NEs per bus	200		
Q1 bus speeds	600, 1200, 2400, 4800, 9600 bits/s	**MTBF**	
Connector	EURO		72 years

Ethernet Interfaces		Alarm Reporting	
10/100Base-T Ports	2	Front panel LED	Major (red) Minor (yellow) A,B,D and S alarm reported to bus for relay contact activation on PIU
Connector	RJ45		

Switch Parameters			
Operating Mode	Access, FIltered Trunk, Trunk		
Autonegotiation	Yes	**Environmental**	
Duplex	Full/Half	Operating	
MDI/MDIX Support	Yes	Temperature	-20 °C to +65 °C
IEEE 802.1p/q	Yes	Relative Humidity	5-90% (Non-condensing)
MAC Address Size	8K		
VLANs Supported	4096		
Rate Limiting	128K, 256K, 512K, 1M, 2M, 4M, 8M	**Standards**	IEEE 802.3 Ethernet
		IEC 61850-3	IEEE 802.3u Fast Ethernet
Traffic Shaping	Strict & Weighted Round Robin	ITU-T V.11	RFC1157 SNMP
		RCM Mark	RFC1213 MIB II
Priority Queues Per Output	4	CE Mark	RFC3410 SNMP v3 Framework

Management			RFC854 Telnet
Local	CLI via Console (RS-232)		RFC4253 SSHv2
Remote	SSHv2, Telnet, SNMP, ASPeCT		RFC783 TFTP
			RFC2865/2866 RADIUS
			RFC5424 Syslog
			RFC3931 L2TPv3
			EN55022 Class A Emissions
			EN60950 Safety
			EN55024 Immunity
			EN50082-2 Generic Immunity
			ETS 300 019 -1-1 Operational
			ETS 300 019 -1-2 Storage
			ETS 300 019 -1-3 Transport

AVARA TECHNOLOGIES

Head Office

Regional Distributor

1/45 Normanby Road
Notting Hill, Victoria 3168
Australia
Tel: +61 3 95400330
Fax:+61 3 99236545

www.avaratechnologies.com

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