

## vadEDGE™ 4158 | Product Information

The vadEDGE range of Multi-Service Communications Processors enables effective communication at the edge of the enterprise network. With vadEDGE, mobile, regional and remotely located teams are able to access the same voice and data communication services that their colleagues benefit from at the organisation's headquarters.

The 4158 series provides the same high performance as its larger counterpart, the vadEDGE 4200 series, but now with increased functionality, and reduced form factor.

### Delivering specialist communication solutions

The new vadEDGE 4158 platform supports a wide range of protocols and network interfaces, such as WAN and Ethernet, enabling customers to aggregate and effectively deliver multiple services over almost any bearer communications medium including GPRS, PSTN, Basic Rate ISDN, Leased Line and satellite (VSAT).

Combining analogue and digital voice with data services such as fax, IP, POS, ATM, GSM, the 4158 efficiently and cost effectively manages bandwidth through dynamic packet fragmentation and compresses voice to 7Kbps, including protocol overheads, whilst ensuring Quality of Service. Therefore regardless of whether located at a regional office, remote branch or even deployed to a location miles from civilisation, users are able to communicate swiftly, clearly and securely with central control teams and send/receive data that enables them to fulfil their role.



#### Benefits

- Operational cost reduction
- Service enablement
- Lower TCO
- Revenue enhancement
- Proven reliability
- Management flexibility
- Future roadmap
- Bandwidth savings
- Toll quality voice over limited bandwidth
- No Software Licences
- Feature rich management platform

#### Features

- Four slots supporting the following optional modules:
  - GPRS
  - 2 Port Ethernet
  - ISDN (BRI)
  - High Speed WAN
- 1 x Fixed PSTN Modem Port (either/or - switched between the adjacent port)
- Hardware based Compression
- Hardware based Encryption (subject to UK Export Approval)
- Remote web management
- Available with Auto Sky Roaming (ASR)™

vadEDGE 4158 (Data & Voice)

# Product Information

## The vadOS operating system

The need to integrate multiple data sources does not have to require a complex and proliferated network infrastructure that is unwieldy and difficult to support. Vados Systems provides a single platform solution that provides all the benefits of reduced capital expenditure, simplified training and engineering resource efficiency.

The core component throughout the entire Vados Systems product range is the vadOS operating system. vadOS recognises the importance of each data stream as dictated by business need and assigns a level of service integrity and quality of service while dynamically managing bandwidth for optimal use. This approach to aggregating and delivering voice and other mission critical application data streams over the most efficient transport mechanism enables our customers to intelligently handle multiple protocol communication requirements with ease.

## vadOS | Functional Specifications

|   |   |   |   |
|---|---|---|---|
| <p><b>Serial Link Support</b></p> <ul style="list-style-type: none"> <li>Standard: <ul style="list-style-type: none"> <li>Vados V-TES architecture</li> <li>Frame Relay</li> <li>NNI/UNI, LMI (ANSI &amp; ITU)</li> <li>Switched &amp; PVC</li> <li>TCP/IP PPP (RFC 1331), SLIP</li> <li>TPAD</li> <li>PAP/CHAP &amp; MLP</li> <li>X.25 (1980 &amp; 1984), X.32</li> <li>OSI Transport (Class 0, 2, 3)</li> <li>V.25bis</li> <li>Async port up to 115.2Kbaud (X.3, X.28, X.29)</li> <li>HDLCL transparent pass-through</li> <li>Bandwidth management</li> <li>Auto link back-up</li> <li>Link and Channel bonding</li> </ul> </li> <li>Optional: <ul style="list-style-type: none"> <li>IBM SDLC / QLLC</li> <li>APACs 30+40</li> <li>X.42</li> <li>SMDS</li> </ul> </li> </ul> <p><b>Terminal Emulation</b></p> <ul style="list-style-type: none"> <li>Standard: <ul style="list-style-type: none"> <li>TCP Telnet (Client &amp; Server)</li> <li>Transparent Telnet (RFC 1006)</li> </ul> </li> <li>Optional: <ul style="list-style-type: none"> <li>ICL 7561</li> <li>Hitachi T560</li> <li>IBM 3270 (inc.Kanji)</li> <li>Telnet (RFC 1646)</li> </ul> </li> </ul> | <p><b>Voice Support</b></p> <ul style="list-style-type: none"> <li>Standard: <ul style="list-style-type: none"> <li>VoIP SIP, VoIP VTES, VoFR</li> <li>User selectable compression algorithms: <ul style="list-style-type: none"> <li>G.711 PCM @ 64Kbps (uLaw or ALaw)</li> <li>G.727 E-ADPCM @ 16, 24, 32 or 40Kbps</li> <li>G.726 ADPCM @ 16, 24, 32 or 40Kbps</li> <li>G.723.1 MP-MLQ @ 5.3 or 6.3Kbps</li> <li>G.729 CS-ACELP @ 8Kbps</li> <li>NETCODER™ @ 6.4, 7.2, 8, 8.8 or 9.6Kbps</li> <li>G.165 Echo cancellation up to 16ms</li> </ul> </li> <li>Silence compression or suppression</li> <li>User configurable voice and tone volume</li> <li>User configurable tones for different countries</li> <li>DTMF detection and generation</li> <li>Tone pair generation</li> <li>Bad frame interpolation</li> <li>Automatic voice/fax switching</li> <li>Fax and Modem Support</li> <li>Non-dial connect (PVC)</li> <li>Dial connect (Switched Frame Relay/ISDN)</li> <li>Time Break Recall (TBR) support</li> <li>TOS/DiffServe</li> </ul> </li> </ul> <p><b>IBM Networking</b></p> <ul style="list-style-type: none"> <li>Standard: <ul style="list-style-type: none"> <li>SDLC</li> <li>QLLC</li> <li>Ethernet DLC</li> </ul> </li> </ul> | <p><b>Bandwidth Optimisation</b></p> <ul style="list-style-type: none"> <li>Standard: <ul style="list-style-type: none"> <li>V-TES (VADOS Proprietary)</li> <li>IP/UDP Header compression</li> <li>IP/UDP/RTP Header compression</li> <li>Voice-frame multiplexing</li> </ul> </li> <li>Optional: <ul style="list-style-type: none"> <li>Hardware Data Compression (LZS, MPPC)</li> </ul> </li> </ul> <p><b>TCP/IP Routing &amp; Ethernet Support</b></p> <ul style="list-style-type: none"> <li>Standard: <ul style="list-style-type: none"> <li>MAC bridging, IP routing</li> <li>OSPF, RIP, RIP2</li> <li>NAT/PAT</li> <li>OSI TP4</li> <li>GOSIP CLNS/CONS</li> <li>BootP Client</li> <li>DHCP client</li> <li>DHCP Server</li> <li>IP/UDP encapsulation with DiffServ</li> <li>Port/Address Filtering</li> <li>Metro Ethernet 802.1p</li> <li>802.1q Ethernet trunk</li> </ul> </li> <li>Optional: <ul style="list-style-type: none"> <li>IPX routing, OSI ES-IS</li> <li>DLC local termination</li> </ul> </li> </ul> <p><b>Security</b></p> <ul style="list-style-type: none"> <li>Optional: <ul style="list-style-type: none"> <li>Hardware based DES or Triple DES Encryption (subject to UK export approval)</li> </ul> </li> </ul> | <p><b>Satellite Networking</b></p> <ul style="list-style-type: none"> <li>Standard: <ul style="list-style-type: none"> <li>Vados VTES</li> <li>SCPC, TDM/SCPC (Integral Support)</li> <li>TDMA (I-Direct, ViaSat, Hughes)</li> <li>Inmarsat BGAN/RBGAN</li> <li>Asymmetrical &amp; Symmetrical clocking</li> <li>Data Splitter/Combiner</li> <li>TCP Acceleration</li> <li>Serial VSAT Terrestrial Link Back up</li> <li>IP VSAT Terrestrial Link Back up</li> </ul> </li> </ul> <p><b>Management Support</b></p> <ul style="list-style-type: none"> <li>Standard: <ul style="list-style-type: none"> <li>Local async console (RS232)</li> <li>Virtual port for remote access</li> <li>SNMP (MIBs: MIB2 &amp; Enterprise)</li> <li>megaWATCH (SNMP Management)</li> <li>Billing and Accounting</li> <li>Local/Remote configuration, upload, download, TFTP</li> <li>Remote software download, TFTP</li> <li>RADIUS</li> <li>Internal protocol Data scope</li> <li>Menu and Presentation Service</li> <li>Security (Password, address validation)</li> </ul> </li> <li>Optional: <ul style="list-style-type: none"> <li>IBM Netview</li> </ul> </li> </ul> |
|---|---|---|---|

Optional modules are only included by special order; additional charges may be applicable.

## Product Information

# vadEDGE™ | Hardware Specifications

### Hardware Specification VE-4158

|                        |   |
|------------------------|---|
| Ethernet               | 2 x independent 10/100 Ethernet with Auto Negotiation <sup>1</sup>                            |
| High Speed WAN         | 1 x High Speed WAN ports V.24, V.35, V.36, V.11, Sync (2Mbps) or Async (115Kbps) <sup>2</sup> |
| Low speed WAN          | 1 x Low Speed WAN Port V.24 only Sync (64kbps) or Async (115Kbps) <sup>3</sup>                |
| Fixed PSTN Modem       | 1 either/or (switched between the adjacent port, not simultaneously)                          |
| Analogue Voice         | 8 x FXS, FXO or E&M Voice Ports (in any combination)  |
| ISDN                   | 1 x BRI   |
| ADSL                   | ADSL/ADSL2 <sup>5</sup>   |
| GPRS                   | 1 with detachable universal jointed antenna   |
| Encryption/Compression | (Optional) Supports DES or Triple DES Encryption and LZS & MPPC <sup>4</sup>                  |
| Supervisory            | 1 x RS232 control Port  |

|                 |  |
|-----------------|--|
| <b>Power AC</b> | External power pack, AC input, 100-240V<br>Frequency 50-60 Hz<br>Current Rating 1.0A |
|-----------------|--|

|                 |       |
|-----------------|-------|
| <b>Physical</b> |       |
| Height          | 65mm  |
| Width           | 280mm |
| Depth           | 245mm |

|                       |                           |
|-----------------------|---------------------------|
| <b>Environmental</b>  |                           |
| Operating Temperature | 5 to 45 degrees C         |
| Operating Humidity    | 10% to 90% non-condensing |
| Storage temperature   | -30 to +50 degrees C      |
| Storage humidity      | 10 to 90% non condensing  |
| Barometric Pressure   | 98kPa to 134kPa           |

**Note:**

- |  |   |
|--|---|
| 1. Maximum 4 independent Ethernet ports per 4158 | 4. Encryption subject to UK Export Approval |
| 2. Maximum 4 high speed WAN ports per 4158       | 5. 2008 Development Roadmap                 |
| 3. Max 2 BRI per 4158                            |   |

# vadEDGE™ | Ordering Information

**VE-4158** Includes fixed PSTN Modem Port

### Module Options

|         |                                 |
|---------|---------------------------------|
| VE-ETH  | 10/100 Ethernet Port Module     |
| VE-WAN  | High Speed WAN Interface Module |
| VE-GPRS | 1 GPRS Port Module              |
| VE-PSTN | PSTN Port Module                |
| VE-BRI  | BRI Port Module                 |