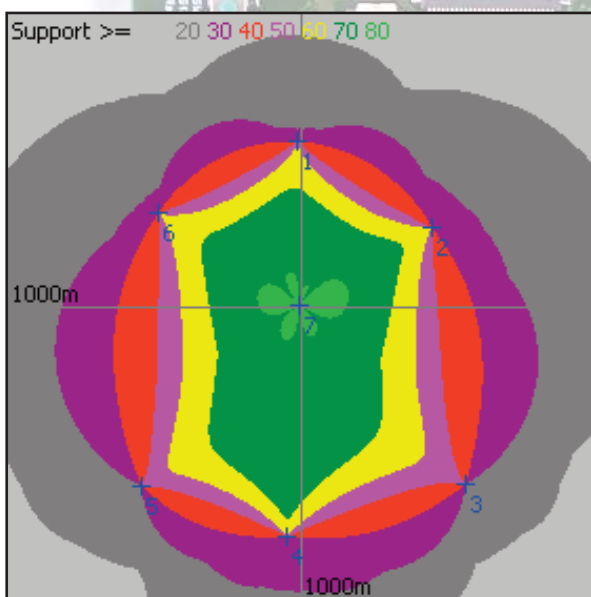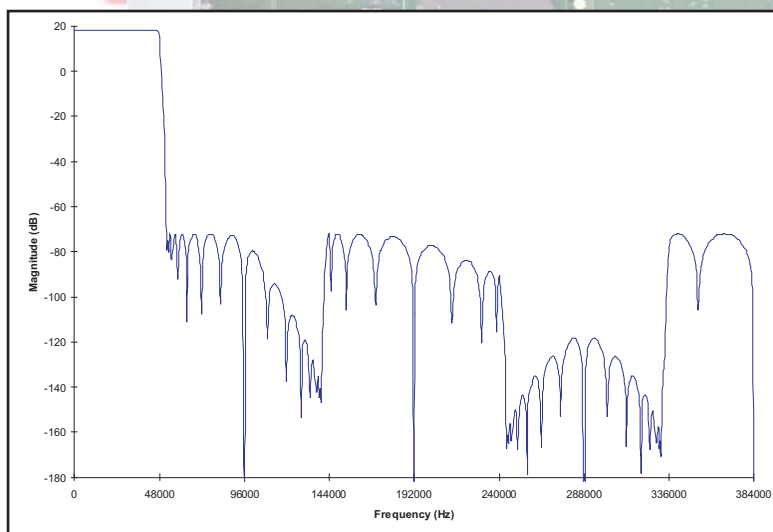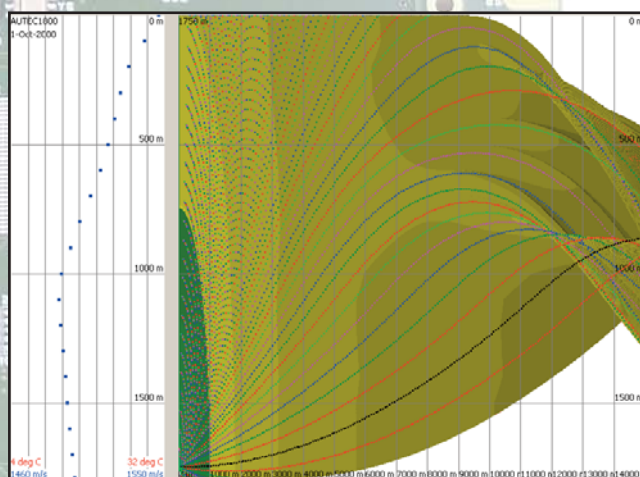# Emeritus Solutions Ltd

Navigation Solutions

Layout analysis and planning
Trilateration processing
Residuals analysis
Slant range plots
Hydrophone boxing in X, Y (& Z)
Bespoke processing and analysis
Recording and real time displays
Task based conning aids

Underwater Acoustics

Propagation analysis
Sonar equation assessment
Waveform and processing design
Acoustic system grooming
Recording and bespoke analysis
System and transducer calibration
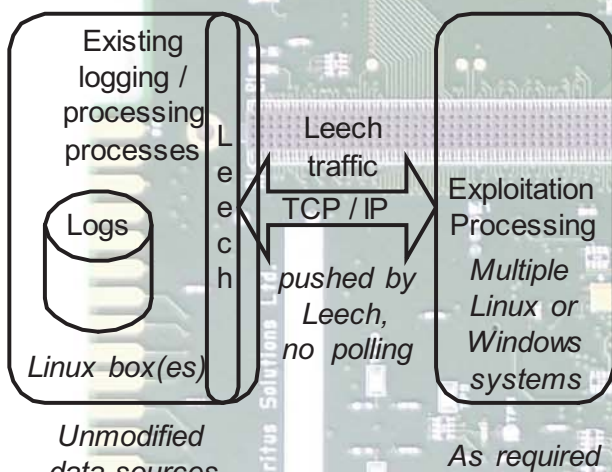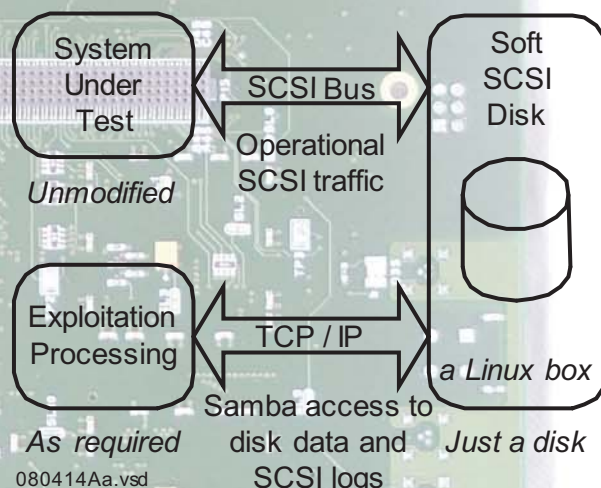Going to sea and making it so

Signal Processing

DSP algorithms
Filter analysis and design
FFTs, windows and LOFAR
Correlation & normalisation
DSP hardware specification
DSP processing software
DSP assembler coding
Recording and analysis

Delivering Ingenuity

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SCSI Target

A soft SCSI disk for the analysis of unmodified, embedded systems disk traffic and data. Mega bytes of cache back the parallel SCSI interface to provide fast disk writes. The client interface includes a SCSI command log, R/W journal and real time access to the disk data.

System Under Test — *Unmodified*

SCSI Bus — Operational SCSI traffic

Soft SCSI Disk — *a Linux box* — *Just a disk*

Exploitation Processing — *As required* — 080414Aa.vsd

TCP / IP — Samba access to disk data and SCSI logs

Leech

Existing logging / processing processes

Logs — *Linux box(es)* — *Unmodified data sources* — 080414Ba.vsd

Leech

Leech traffic — TCP / IP — *pushed by Leech, no polling*

Exploitation Processing — *Multiple Linux or Windows systems* — *As required*

Sucks data out of Linux logs without cooperation from the source process(es) and serves the data over TCP/IP. Leech facilitates the analysis and extension of applications. Leech requires no modification of existing Linux applications, and is ideal for NMEA and ASCII sensor data streams.

Technology Base

Underwater acoustics and Sonar
Trilateration processing and GNSS
Digital signal processing: Algorithms and implementation
Statistics and engineering mathematics
Computer systems and programming
Digital electronics: VHDL, FPGAs, hardware design, JTAG
Microcontrollers: USB, CAN
Materiel: Hydrophones, projectors, amplifiers, instrumentation

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