

# INSIGHT

D F A  
OPEN ACCESS NETWORK



## **DARK FIBRE AFRICA (DFA) INSIGHT**

### **Managed Services for Optic Fibre Networks**

DFA INSIGHT is a combination of systems and processes, which enable Dark Fibre Africa (DFA) to maintain uptime in a customer's infrastructure by detecting abnormal events and ensuring rapid restoration of fibre infrastructure.



This is achieved through a highly qualified and experienced operations, surveillance and maintenance team, supported by an integrated suite of tools. DFA INSIGHT is a customised configuration of commercial and proprietary software that is seamlessly pieced together with application integration modules. The system provides graphical, on-line, real time views of the customer's infrastructure, utilising tools such as Map-info and Google Earth. This facilitates

easy site access and assists with planning and maintenance functions.

This enables DFA to deliver services to its customers:

- consistently and in accordance with international standards
- with clear, measurable and well documented Service Level Agreements
- through a skilled and experienced team of professionals

### **WHAT DOES DFA INSIGHT DELIVER?**

Tailored fibre cable networks and associated managed services to meet your business needs. DFA INSIGHT has been designed in accordance to the (FCAPS) ISO Network Management Model to incorporate:

#### **1) Fault Management**

- 24-hour Network Operations Centre (NOC) for delivery of the DFA INSIGHT service
- Proactive fault detection and localisation
- Fault diagnostics and resolution management
- Optical and physical distance correlation on Graphical Information System (GIS) views
- Escalation management

#### **2) Configuration Management**

Acceptance Test Procedure (ATP) and Fibre characterisation:

All tests are done in accordance to the relevant ITU-T, IEC and FOTP. Recommendations and specifications for system operation at 10 Gbps.

- Event and splice loss measurements
- Back reflection measurement
- Power and loss measurement – Light source and power meter (bidirectional)
- Polarisation Mode Dispersion (PMD) Measurement
- Chromatic Dispersion Measurement (CD) CD analyser and broad spectrum source
- Bandwidth analysis for dispersion compensation

#### **3) Service connection and activation:**

- Connection and commissioning of services on a range of transmission equipment
- Change control
- Change management

#### **4) Asset Management:**

- Entire fibre network is populated on a dynamic system record database. (OSP InSight)
- OSP InSight is linked to the Optical Cable Network Management System (OCNMS)
- Total network quality management through the use of automated test routines and reference performance data.
- Network security implementation and control to secure and protect network nodes and associated plant in this environment.

#### **5) Account Management**

This is achieved with the integration of DFA's trouble ticket management system and CRM database application, with the OCNMS management software.

- Automated trouble ticket generation and logging of network failure times.
- SLA time standard management on trouble ticket.
- 24-hour help desk service management.
- 24-hour Technical Assistance Centre (TAC) support service.
- Monthly report generation on individual link availability and repair time standards.
- Dedicated key account managers assigned to ensure customer's needs are addressed at all times.

#### **6) Performance Management**

Proactive performance management through:

- Network performance maintained to initial Acceptance Test Procedure (ATP) commissioning standard.
- Setting of performance thresholds on OCNMS application.
- Systematic testing of all cables.
- Automated "fault find" routines.
- Tracking of link degradation over time.
- Fibre cable replacement management.

#### **7) Quarterly network audit and reporting:**

- Physical inspection of all cable routes.
- Individual cable performance reports.
- Fault and incident management reports.
- Consolidated access reports over a period.
- Summary of network status and risk assessment.

#### **8) Security Management**

Our unique network security management system has been specifically developed for the outside plant environment. It not only secures all network nodes with high quality locking mechanisms, but also provides total network control from the Network Operations Centre to manage and enforce work authorisation procedures on every access request.

- Physically secure optical network with centrally managed high integrity locking mechanisms
- Enforcement of Work Authorisation Procedures (WAP) for access requests to working infrastructure
- Pre-authorisation of all access requests prior to access being granted, once a detailed risk assessment has been conducted per individual request and consultation with end customers.
- Centrally managed network security status in real time on GIS views. All access nodes are GPS referenced and uniquely identified.
- RFID tag technology, data encryption and tamper monitoring management.
- Smart key management through wireless communication and GPS tracking of keys.

#### **HOW DOES DFA INSIGHT REALISE THE SYNERGIES BETWEEN THESE DIFFERENT MANAGEMENT APPLICATIONS?**

**Four separate software applications address the full scope of what FMS Insight offers**

- Specialised network record inventory system.
- Real time fibre cable management system.
- CRM and trouble ticketing system.
- Security management system.

All these systems represent data on common graphic information system views with full point and click functionality, making them easy to operate, but also quick to configure and effective to use. By sharing the common data between these applications and representing the real time status of the various elements on these common views, one is effectively able to realise the "cause and effect" relationships and synergies between these different applications.

## What are the Business Drivers?

Use of DFA INSIGHT enables the reduction of system and network running costs. Customers are able to avoid unnecessary capital expenditure and reduce operating expenditure. Costs are adaptable to changes in the customers' business requirements which may arise as a result of organic growth, acquisitions and disposals, or new service offerings. Customers do not have to worry about many of the hidden costs typically ignored when building a network operations centre such as facilities costs, software licenses, attraction and retention of specialist skills and R&D costs. Costs need only be incurred at the same time as new revenue streams are secured.

Improved network quality, performance, reliability and availability – fibre cable networks and associated infrastructure solutions is DFA's core business focus. As such DFA believe that they are able to apply the best available skills to delivering an unsurpassed service.

Customers get to use the applications without having to take the technology risk in buying or building them. DFA provide remote log-on to their management systems for different users to view their own networks, while still maintaining confidentiality between different customers information. By sharing common infrastructure customers enjoy significant cost benefits via the sharing of expensive test heads embedded in common networks.

These are specialised applications and specialist expertise is required to perform effective configuration management. Many such deployments never reach their full potential as customers find it very difficult to maintain this focus on applications that are generally considered non-core functions.



## Why use Dark Fibre Africa for Operational Support Systems (OSS) Infrastructure Management?

Operational Support Systems for the Outside plant environment is DFA's core business.

Dark Fibre Africa's unparalleled experience in the deployment and management of fibre optic infrastructure has resulted in a unique market position. DFA INSIGHT is one of the most comprehensive managed service offerings available for optic fibre networks.

Through current deployment contracts for this service solution, DFA has established these new total quality maintenance standards as a benchmark in the industry.