

# Director

## Innovative Network Management

### Managing the AM Series Network

NEC's Multi-Service Access Platform, the *AM Series*, is managed by NEC's "Director" Management System software, which provides comprehensive service, network and element management support for both service providers and telecommunication operators. Director provides an easy to use GUI interface, a client-server architecture and deployable on the range of powerful Sun Microsystems servers for optimum performance.

Director allows the operator to perform service provisioning, activation and monitoring, and provides open standard interfaces allowing integration into Operational Support Systems and data stores.

### Powerful, Scalable and Flexible

Director features a highly configurable suite of modules that allow for centralised or distributed management of the network hardware and subscribers. These include:

- **SMS** (Service Management System)
- **INMS** (Integrated Network Management System)
- **CAG** (Conditional Access Gateway for video services)
- **ePG** (electronic Program Guide for video services)

Director is highly scalable, supporting from 1 thousand to 1 million lines.

### Open Standard Integration

Director offers open standard interfaces through support for CORBA, SNMP, XML & ASCII, making integration into Business Management Systems and legacy Element Management Systems simple and fast.

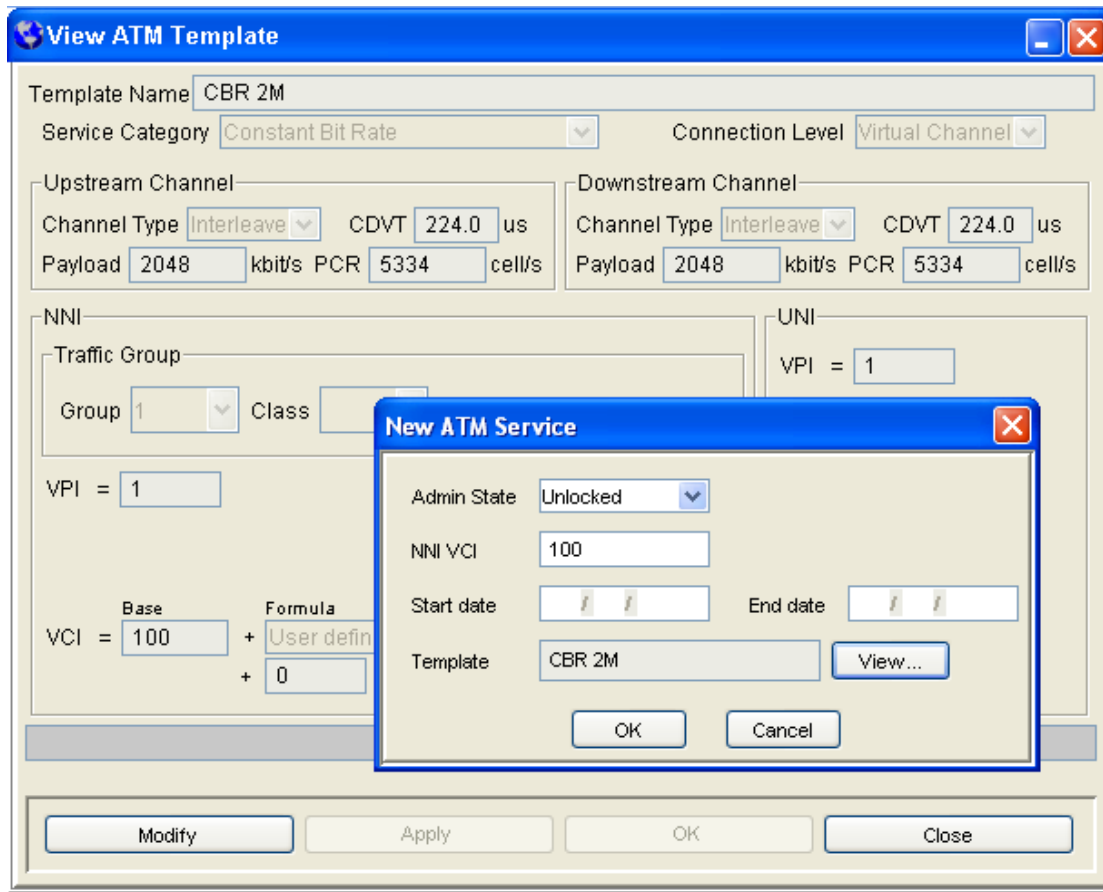
## Director-SMS

Through Director SMS, the operator has full control over all service aspects of the AM Series network, allowing delivery of an end-to-end service to both wholesale and retail customers.

SMS can be deployed as either a centralised or distributed architecture to allow for the most appropriate and efficient network control. Additionally, SMS provides open service management interfaces to other operations support systems.

Director SMS Management functions include:

- Subscriber management
- Service provisioning
- Service activation and de-activation
- Service assurance
- Tree and list views
- Security management
- Open standard interface to operation support systems (OSS)



An example of the SMS Graphic User Interface



## Director-ePG

Director-ePG is an electronic Program Guide designed for broadcast video services. Integrated with Director-SMS, it delivers electronic Program Guide services to Web browsers on Personal Computers and Set Top Boxes.

The Director-ePG system delivers information and subscription services to Pay TV and Pay-per-view subscribers, such as:

- electronic TV program guide
- Subscriber entitlement review
- Subscriber self service access

The Director-ePG technology platform can exchange data via the ePG server (with secure communications), dynamic generation of ePG HTML pages, or by using a Web application server.

## Director-CAG

Director-CAG is a conditional access gateway allowing service providers to activate and deactivate video services by setting access entitlements.

The service provider may query the state of the video services conditional access entitlements within the AM Series Network Element, allowing them to reliably perform a service assurance function.

The AM Series Network Element records channel change event information, which is collected by Director-CAG as it becomes available on the AM Series Network Element. This information allows the service provider to perform:

- Service Assurance – the event information can be used to monitor service availability.
- Viewer reaction to content change such as advertising material.
- Program loyalty – the duration that the user stays with a program.
- Program popularity – how many users are watching a program at any point of time?