ARConnect2DC

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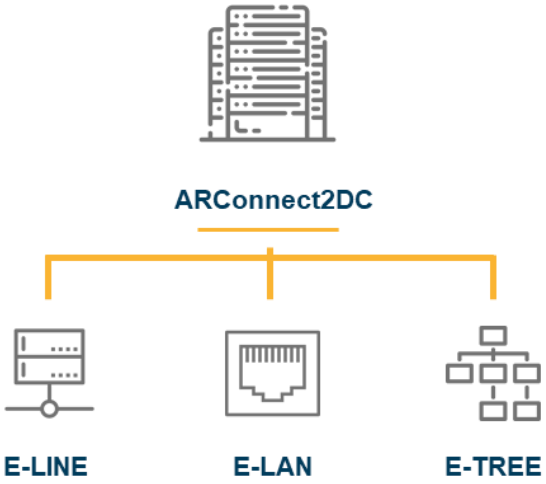
SERVICE SCHEDULE

Giving you the Edge in the Middle East

1. Service Description

ARConnect2DC embodies Datacentre-to-Datacentre layer2 connectivity portfolio, to simplify the connectivity across the Middle East region.

ARConnect2DC provides an MPLS based EVPN service built on a native IP highly redundant platform equipped with high-performance interfaces, allowing networks to scale in order to meet evolving traffic demands and be connected via a high-capacity meshed network.



The MPLS network architecture is self-healing and fully redundant, utilizing dual Nodes in each country connected via dual diverse backhaul capacity ensuring maximum availability and minimum performance degradation.

ARConnect2DC is elastic in term of bandwidth from 1 Mbps to 100 Gbps and usage terms from days to years. This version of the service schedule is describing layer2 services.

2. Our Network

Datacenter reach in the Middle East Region

Country	City	DC	Operated by
UAE	Dubai	datamena DX1	Equinix
UAE	Fujairah	Smarthub	Etisalat
Bahrain	Manama	Global Zone	Batelco
Oman	Muscat	MC1	Equinix
KSA	Jeddah	JED1	Mobily
Israel	Tel Aviv	Shacham	Bezeq
Qatar	Doha	QDC5	Ooredoo
Pakistan	Karachi	WiTribe/Sharptel	WiTribe/Sharptel

3. ARConnect2DC – Layer2 Services

3.1 Technical Specifications

ARConnect2DC is a layer 2 MPLS based connectivity service which enables the creation of a MPLS based single next generation wide area network (WAN) to match your business objectives. The Service Demarcation Point (SDP) of the Ethernet Service is the access switch where an access port will be provided to the End User.

The features of the L2 Ethernet connectivity service include:

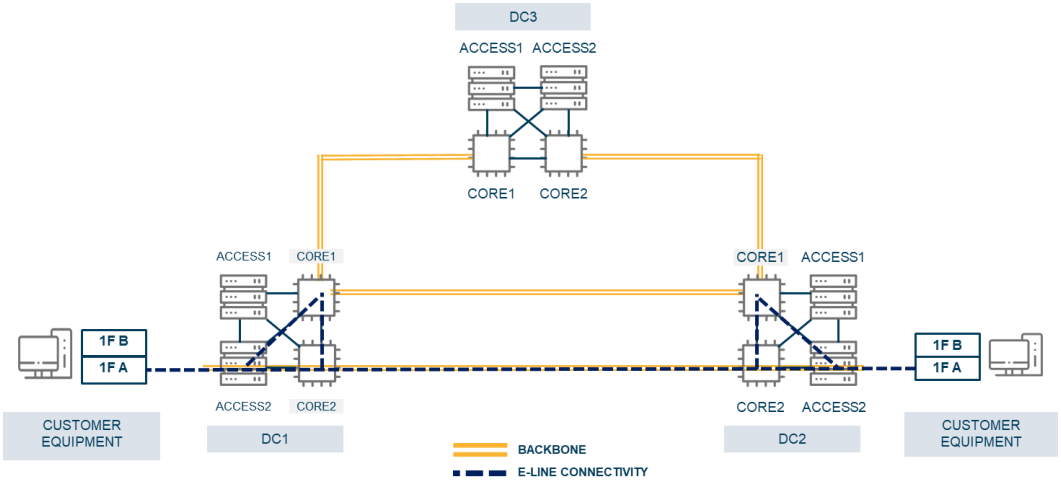
SERVICE PARAMETER	CONFIGURATION
Port Type	SFP LC type connector (GigE and 10GigE)
Signaling	1000Base-LX (GigE) 10GBase-LR (10GigE) LAN-PHY
Maximum MTU	Configurable up to 9150 Bytes
Link Loss Forwarding (LLF) or equivalent (e.g. CFM CCM)	LLF Enabled
LLF/CCM Suppression and Hold-Off Timers	1 second
Link Diversity	All sites have dual core nodes and dual access nodes allowing for complete separation of services - Provisioning of a service which remains discrete from another is productised - availability will depend on available WAN capacity
Link Overbooking	No Link overbooking under failure conditions
Packet Sequencing	no over subscription
Aggregated handover type	802.1q VLAN-based (100GigE)
QinQ	Supported
VLAN range	Supported Vlans 2 -4095
LAG Protocol	LACP
Physical presentation	OS2 LC Duplex Single mode fibre connections [1] Supporting • Optical, SFP LX (1310nm) LC for 1000Mbps • Optical, SFP+P LR/LW (1310nm) LC for 10Gbps, LAN-PHY

[1] [cross connects in Equinix DX1 utilize SC connectors and are converted to LC in the ARC Rack

3.2 Supported Topologies

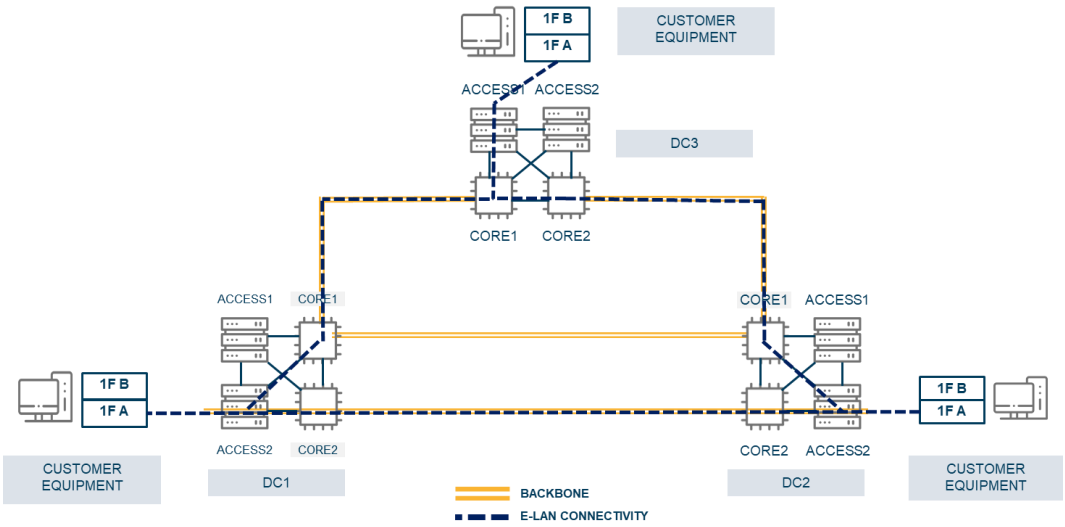
3.2.1 E-Line

- ✓ Designed to connect two points on a dedicated path.
- ✓ Configured as a single unprotected linear circuit or deterministic protected connection



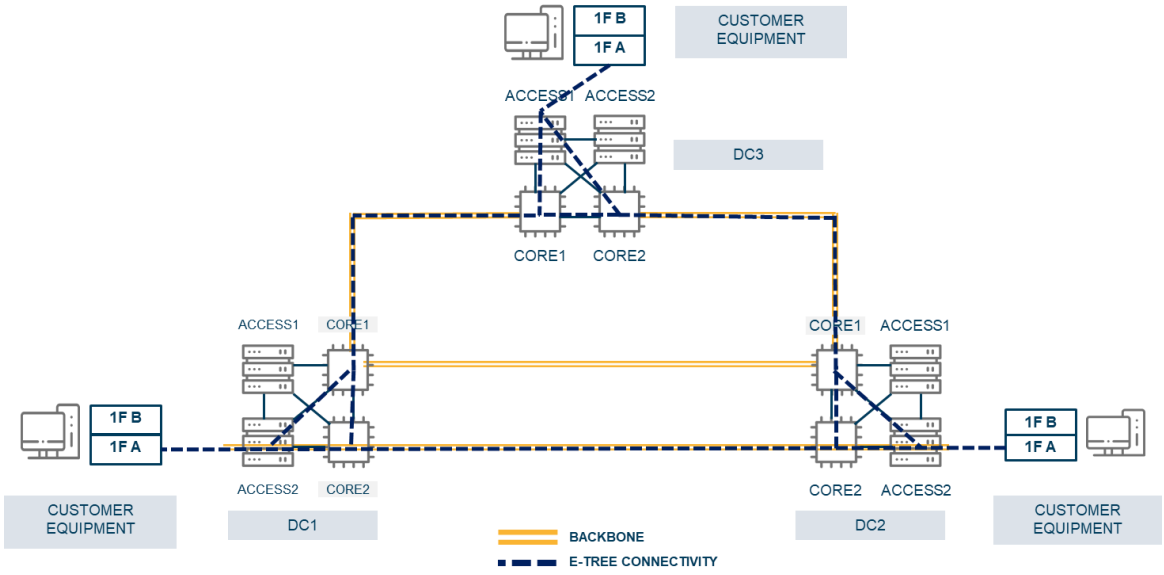
3.2.3 E-Lan

- ✓ Designed to connect multipoint to multipoint across the entire network.
- ✓ Configured as a single unprotected linear circuit or deterministic protected connection.



3.2.3 E-Tree

- ✓ Designed to connect point to multipoint across the entire network
- ✓ Configured as a single unprotected linear circuit or deterministic protected connection.



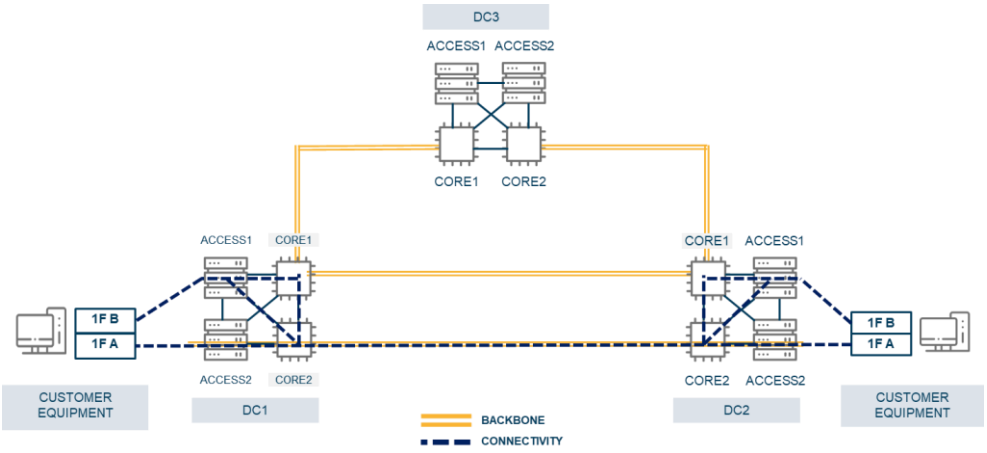
3.3 Protection Mechanisms

3.3.1 Optical protection

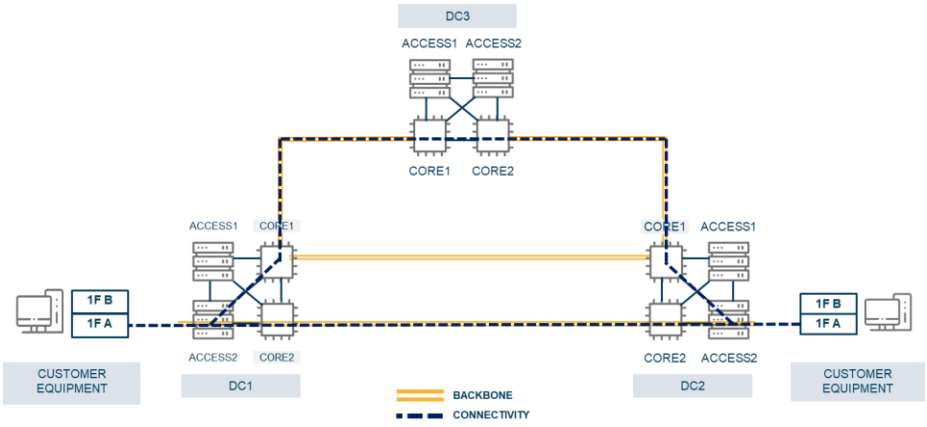
Our network is built over a highly resilient backbone SNCP protected in most cases and when the optical protection is supported by our carrier's partners.
The links which build over submarine capacity are unprotected.

3.3.2 Layer 2 protection

✓ Port protection – one or both ends – allows customer to protect access port at one or both ends of a service. This will require all services on a given port to use protection



✓ Path protection – Where available this allows an individual service to dynamically reroute to an alternate route in the event of an underlying network failure. For standard high availability services (no path protection) the service relies on the inherent resilience of the underlying service provided to ARC [ARC insists on resilient network capacity when purchasing the underlying infrastructure for the ARC Matrix]



4 Service terms and conditions

ARCONNECT2DC is designed to reduce the rigidity of existing connectivity offering in the region and to be as elastic and flexible as a cloud service.

4.1 Contract Terms

The contract terms vary from 1 Month to 36 Months.
At the end of the term, the service will be renewed on a monthly basis rolling until ceased by the customer with 30 days notice.

4.2 Pricing and Billing

The service pricing includes:

- **Port Charge:** Monthly Recurring Charge per port.
- **Service Charge:** Monthly Recurring Charge based on service's specifications

Customer can terminate the bandwidth and keep its port active by paying for the Port Charge.
The billing commences upon RFS.

4.3 Service Management

Customer can at any time request to upgrade their services within the same term or extend the existing term.
Customer can at any time request to downgrade their services while extending the contract term to maintain the Contract existing value.
Customer can at any time request to change the A- or B-end of a service. In this case the previous service will be terminated, and a new service will be set up according to the new destination pricing and conditions.

4.4 Service Provisioning and Testing

1. A Service delivery manager will be assigned upon service order form signature and will be the single point of contact for the service provisioning and service management requests.

2. Service provisioning will be fulfilled after the cross connect delivery.

3. ARC will do their best to deliver the service within the timeline agreed in the service order form.

4. The standard port provisioning parameters are:

Port Protection	Yes/No[2]
MTU Size	1514 or 9150 as standard, other options are available on request
Port Speed	1G / 10G
Encapsulation	None / Dot1Q /QinQ [3]

5. The standard service provisioning parameters are:

Destination Port	Existing port ref or requested site / DC
Speed	CIR any value in whole Mbps below the bandwidth available on the port[4]
Path Protection	• Underlay Resilience • Dual path Guaranteed (refer to section 3.3)
VLAN Assignment	Provided by ARC Solutions

6. ARC remains at customer disposal to study the feasibility and implement Customer's specific requirement.

7. Testing and acceptance procedure: ARC Solutions will issue a testing certificate as part of the handover pack. This testing will align to the ETHERSAM Y.1564 standard developed by the ITU and examples can be shared with the customer. In some instances where the EtherSAM capability is yet to be set up, a test can be run using RFC2544 parameters which will be shared with the customer in lieu of the EtherSAM certification.

[2] Protected ports will be delivered on a separate chassis in the same DC, they will require two ports on the customer equipment and is built using a LAG provisioned as ESI Single Active mode.

[3] For encapsulation three options exist; –

1. None - for ports with only a single service "None" or no encapsulation can be selected. If this is selected no other services can be configured on the physical port unless an outage is agreed to change the port configuration
2. Dot1Q – If this option is selected, a VLAN will be assigned by ARC Solutions and will be communicated to the customer, this will be within the standard VLAN range between 0010 and 3900. The customer will need to configure this VLAN oon their port for this specific service
3. QinQ – If the customer wishes to transfer a VLAN tag to the far end of the service – ARC Solutions will still add a VLAN Tag which the customer will need to configure but will carry an additional VLAN tag imbedded by the customer to the far end for termination on the next switch. This service is typically used by carriers for terminating traffic to NNIs.

[4] Service Speed – The Service Speed will be tested and throughput of traffic will be 100% of the contracted service speed. Data transfer rates may be impacted for packets with smaller MTU sizes due too the higher overhead. The committed service speed includes all overhead packets for Ethenet and IP including the dot1Q and QinQ overheads. A table can be provided on request.

4.5 SLA

ARC provides **24X7X365 technical support** service.
The NOC team is reachable via:

- ✓ **Phone: +97145687333, +15856661456**
- ✓ **E-mail:** support@arcsolutions.me

ARC commits to the Service Level Agreement ("SLA") defined in the table below:

ARC SLA	
Service availability	99.5%
Service provisioning	1 business day
Fault restoration (MTTR)*	4 hours for critical 12 hours for major 7 days for minor
Frame loss ratio	Less than or Equal to 0.03%
Jitter	Less than or equal to 3ms

(*) MTTR means Mean Time To Repair.

The Trouble Tickets shall be prioritized based on the relative severity of each Fault as follows:

SERVICE RESTORATION TABLE		
Fault	**Criteria**	**MTTR**
Critical	- Total loss of Service - Degraded Service (the Service is degraded to the extent that the Customer is unable to use.)	4 hours with customer update every 30 min till resolved
Major	- Degraded Service (the service is degraded, where Customer is able to use it) - Chronic Issue, where the Service has had a number of repeated unexplained Service failures.	12 hours with customer update every 90 min till resolved
Minor	-Non-Service affecting (a single non-circuit specific quality of Service inquiry)	First update within 5 hours and daily update till resolved

4.6 Service Credits

Service credits will apply only on the service availability. ARC commitment is reflected on the table below:

Availability	Maximum Minutes of Total Service Outage per month
99.5%	3h 39m 8s

The Service Availability Credits for Faults experienced on a Service are reflected in the table below:

Service Credits - Availability	
Unscheduled Downtime	**Service credit as % of MRC**
< 3 hours 59 min 59 sec	0 %
4 hours – 5 hours 59 min 59 sec	2 %
6 hours – 7 hours 59 min 59 sec	4 %
8 hours – 11 hours 59 min 59 sec	6 %
12 hours – 23 hours 59 min 59 sec	10 %
> 24 hours	15 %

4.7 Planned Maintenance

1. “Planned Maintenance” shall mean network configuration, design, grooming, rearrangement, upgrade, enhancements, repair, or maintenance of Services.
2. With respect to Planned maintenance relating to Customer’s Service, ARC shall notify Customer in writing of Planned Maintenance, including its timing and scope, at least fifteen (15) calendar days in advance.
3. Planned maintenance shall be performed between the hours of 00:00-06:00 local time relevant for the location where the work is being performed.
4. Any planned maintenance time in excess of the Planned Maintenance allowance described in this clause shall be counted towards Unavailability.
5. For any unplanned emergency maintenance, ARC shall endeavour to provide Customer commercially reasonable prior notice of such emergency maintenance wherever possible.