

Product Specification

ASS600

31/12/2006

Contents

1. Introduction
2. **Supplementary Enablers**
 - 2.1. Access arrangements
 - 2.2. HDF
3. **ASS600 specification**
 - 3.1. General
 - 3.2. Equipment layout and dimensions
 - 3.3. Building access and physical security
 - 3.4. AC power
 - 3.5. Ventilation and cooling
 - 3.6. Smoke / fire detection
 - 3.7. Cable facilities and ironwork
 - 3.8. Internal ties
 - 3.9. Lighting
 - 3.10. Egress (backhaul)
 - 3.11. Rack unit labelling and information
 - 3.12. Common area
 - 3.13. Waste packaging and materials
 - 3.14. Communications
 - 3.15. Welfare facilities
 - 3.16. Health and safety
 - 3.17. Installed equipment standards
 - 3.18. Personnel in co mingled space
4. **Commercial structure**
5. **Glossary**
6. **References**
7. **Document history / issue control**

1. Introduction

The ASS600 product is modular allowing CPs to specify a number of Rack Space Units (RSU), AC power “in tenths of a kilowatts (0.1 kW)” and tie cables (per 100 pairs).

The only bespoke design element will therefore be order combinations of RSU’s and the amount of power “per kw”.

The key difference between the hostel and the co-mingled product will reflect the absence of those items necessary to meet the hostel requirements for physical segregation.

The fundamental expectation under co-mingling is that CPs will share a space within a BT exchange’s equipment area which BT uses or could use, for its own equipment. This space will be referred to as a Multi User Area (MUA).

The underlying design principle with this proposal is that each CPs co-mingling order shall not have any cost dependency on orders from other CPs.

2. Supplementary Enablers

Focus on co mingling as a means of facilitating more cost effective LLU also focuses the requirement for supplementary enablers:

2.1. Access Arrangements

The design principle with co-mingling is that CPs are offered access arrangements in line with the OFTEL Access Direction of 13 December 2001.

2.2. HDF

The Handover Distribution Frame (HDF) in the co-mingled environment follows the principles established in the hostel product. Openreach installs the HDF in the Bay Services Assembly (BSA) of the Ancillary Service Structure (ASS) provided by Openreach in the CPs designated co-mingled space. The internal copper tie cables are ordered from Openreach in the prescribed manner and are run, terminated on the HDF and tested by Openreach. The ordering principles for connection of the unbundled local loop developed for the hostel product can then be applied to the co-mingled environment.

Where more than 1800 tie pairs per 9 RSU’s are required then the CP will allocate an RSU for additional HDF rack provision.

3. ASS600 Specification

3.1. General

Equipment deployed by CPs will need to be suitable for operation in an environment designed to meet the ETSI 300.019 standard; Openreach shall be responsible for maintaining the operating environment within the constraints and conditions incorporated within ETSI 300.019. In the event that such standard may not be maintained Openreach shall advise the CP accordingly and the CP shall have the option to either accept the alternative offered or decline the build offer.

3.2. Equipment Layout and Dimensions

The equipment layout will be based on standard RSU's, within an ASS which incorporates the BSA for the HDF and the AC power distribution board.

RSU: This consists of usable rack installation floor space of 600 mm depth (front to back) x 600 mm (width). The normal layout will allow access to both sides of the rack unit for CPs using 'back to back' rack configurations or having cabinets with front and rear access.

ASS: This includes the BSA (housing the HDF & A/C distribution board) and provides the support structure for the cable trays and lighting. Full ASS specifications are detailed in a separate document available on the BT Interconnect website. (<http://www.btinterconnect.com>)

The ASS600 will occupy the following billable areas (in square metres) depending on the number of RSU's ordered:–

Number of RSU's	Billable floor area (m2)
1	3
2	4
3	6
4	7
5	9
6	10
7	11
8	13
9	14

(All areas have been rounded up or down as detailed in the carrier price list.)

The ASS600 will allow racks with a height of up to 2400 mm to be installed. A lower clear height may be acceptable given CP agreement.

Gangways will approximate 1000 mm to 1200 mm in width to allow for safe equipment handling, cabinet door opening and heat dissipation.

Perimeter gangways will meet Openreach standards (ie, not less than 1200 mm clear width where required for access from the entrance). Where not required for entry, exit or equipment handling (including cooling units), a perimeter gangway may be reduced to 900 mm.

The position of each rack unit will be marked on the floor and shown on the floor plan.

Fire exit access will be compliant with relevant building and fire regulations as interpreted by Openreach in line with the local fire services rules and guidelines.

The maximum floor loading of CP equipment must not exceed the level notified by the BT design team and on the room drawing(s). Typically between 7.5 kN/m² and 9kN/m², there may be occasions where a lower restriction applies. If loading is to be less than 6kN/m², then the CP will be consulted.

NB. Under distributive loading (and assuming distributive area extends to include 50% of gangways) then providing the total weight of kit to be deployed is less than 430 kg/rack unit then problems are unlikely.

3.3. Building Access and Physical Security

CPs are offered access arrangements in line with the OFTEL Access Direction of 13 December 2001. Any future determinations with regard to access to Openreach MDF sites will apply. The areas used to site the CPs equipment may not have any additional form of security/ locks other than that provided by the building's main entrance.

3.4. AC Power

The maximum per number of RSU's ordered is as follows

No of RSU's Ordered	BILLABLE AREA (m2) ROUNDED UP/DOWN FROM 0.5	MAXIMUM PERMITTED EQMN'T POWER LOAD (in kW) @ 440W/m2. Rounded down to 10th kW
1	3	1.3
2	4	1.7
3	6	2.6
4	7	3
5	9	3.9
6	10	4.4
7	11	4.8
8	13	5.7
9	14	6.1

CPs specify the total AC power. The ASS600 has an incoming supply for a 20A SPN or TPN fuseboard. One way fused at 6A will provide a rack lighting feed. A second way also fused at 6A shall feed a radial circuit connected to a double 13A switched socket for temporary tester and tool use. Circuit rating, total number of fuseways, and fuse ratings relevant to the number of RSU equivalents are as follows.

No. of RSUs per ASS600	Rating and type of feed	Fuse rating for * Equipment feeds	Number of fuseways
1-3	16A single phase	10A	6 way single phase
4-6	16A three phase	10A	4 way three phase
7-9	16A three phase	10A	4 way three phase

N.B. Openreach does not currently provide UPS or DC as part of this product.

Power consumption on a 24/7/365 basis will be deemed to be equivalent to the peak loading provisioned unless otherwise specified in the Weekly Order Form. Alternatively sub-metering may be ordered.

Note: CPs may request lower initial power than the number of RSU's will support. Openreach will provide and charge for the initial power loading as detailed in the weekly order form. If the CP requires further power up to the maximum for their RSU's in the future this will need to be placed as an Additional Services Order .

Openreach will provide the appropriate fuses to limit the CP to the initial usage and does take regular audits of power usage.

Openreach will provide AC Essential Services Supply (ESS) on all orders except where there is insufficient capacity available. If insufficient ESS capacity is available, Openreach will indicate the availability of ESS in the full survey offer. The CP will then have the option to request that an ASS600 order proceeds without ESS, alternatively the CP may request the provision of ESS or cancel the order. CPs are required to provide Openreach with relevant electrical test certificates following connection of CP equipment to the final distribution board fuse way(s).

CPs are required to ensure that their AC power load is reasonably balanced over the phases provided.

Earth access (safety/frame and signal) will be provided.

3.5. Ventilation and Cooling

Openreach is responsible for environmental conditioning within the MUA and this will be designed to satisfy ETSI300.019 class 3.1 based on the combined heat loads of all users of rack spaces within the area. CPs are required to order sufficient RSU's to give a heat dissipation for their chargeable area of not more than 440 watts per square metre and this reflected in the maximum AC power load per RSU. Exceptionally, a rack in any one RSU can dissipate 2.5 kW (which requires a minimum of 3 RSU's to be ordered)

Cooling units will be Openreach maintained.

3.6. Smoke/fire Detection

These will be in line with BT's normal equipment area build requirements.

3.7. Cable Facilities and Ironwork

Ironwork, trunking and cable runways to serve the equipment area (copper ties, fibre and power) will be provided in line with Openreach practice; this will normally be the existing cable runway or spurred from the nearest available runway.

Sufficient cable runway capacity for initial internal copper tie and fibre backhaul / egress provision plus the ability to growth up to the potential capacity of the equipment bay as defined by the ultimate tie cable requirement stated by the CP.

Fibre: Up to 5 internal grade (8 fibre cored) fibre cables, or equivalent.

MDF vertical capacity (Line and Exchange sides) will be allocated for actual tie cable requirements. Openreach will not reserve space on the MDF for future growth. There is no requirement for physical segregation from Openreach cabling (ie, shared runways/cableways; normal segregation of data and power cabling in line with all applicable regulations is assumed).

3.8. Internal Ties

The CP should specify at the order stage, for each tie cable, if they are to be for classic LLU or line sharing.

Provision of the HDF and the associated provision, termination and testing of the internal tie cables to the HDF will follow the order process and commercial principles applied to bespoke provided tie cables; CP cables should meet industry and Openreach standards.

HDF and MDF blocks will be ordered and supplied through Openreach.

3.9. Lighting

Lighting will be provided to Openreach standards for both equipment and common areas. Emergency lighting will be provided to meet building regulations (where appropriate).

3.10. Egress (backhaul)

Egress (backhaul) services can be by either Openreach or self provided cables or as permitted by any further determination. Details are in the industry product manual.

The terminating equipment must be housed within the CPs space. Note a suitable space has been included within the ASS600 design however if further space is required the CPs may need to order the appropriate RSU's to accommodate.

NB. It is recognised that in some circumstances during the Plan & Build period that a CPs backhaul requirements may change. CPs must assess any impact on the timescales for delivery of this backhaul in requesting such a change.

3.11. Labelling and Information

Openreach will affix a sign or durable label in on the BSA to show its discreet identity reference.

The CP occupying any rack unit will clearly display within the unit the 24-hour contact telephone number of that CP.

Openreach will provide relevant information common to all users within the shared equipment area.

3.12. Common Area

CPs will have access, if available, to a common area for 'in life' unpacking and assembly.

3.13. Waste Packaging and Materials

CPs may not leave waste materials in the exchange. All waste must be removed from the site by the CP immediately following use.

Waste Electrical and Electronic Equipment (WEEE)

The proposed EU Directive on Waste Electrical and Electronic Equipment (WEEE) and complementary proposed EU Directive on the Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) are designed to:

- Prevent electrical and electronic equipment from becoming waste.
- To increase the level of recycling and recovery of WEEE.
- Limit the environmental impact of electrical and electronic equipment when it reaches the end of its life through the minimisation of the use of hazardous substances.

The RoHS Regulations introduce the following offences:

"Contravening or failing to comply with the prohibition on hazardous substances in the RoHS Regulations could result in those held responsible facing a fine not exceeding the statutory maximum (currently £5,000) on summary conviction or an unlimited fine on conviction on indictment."

CPs are responsible for disposing of their own WEEE. BT waste bins are not to be used for disposal of redundant / faulty equipment. CPs should ensure that all waste is removed from the BT site and disposed of according to the above guidelines.

3.14. Communications

CPs may order PSTN lines from BT - these are not provided as part of the standard product.

3.15. Welfare Facilities

CPs and their sub contractors will be given access, if available, to welfare facilities (toilets / washrooms) similar to that given to BT contractors / sub contractors.

3.16 Health and Safety

BT will provide information on Health and Safety for the site including but not limited to: details of fire procedures, specific hazards of the building and a CDM file extract relating to the building. It is not expected that BT will provide First Aid facilities for the CP staff and contractors as this is the responsibility of each CP and each contractor.

3.17. Installed Equipment Standards

For the good of all users in the MUA, all equipment installed therein should meet the requirements of RC5001 as shown in the Plan & Build guides.

3.18. Personnel in Co-Mingled Space

To ensure a good standard of use, unescorted access will only be given to persons employed by a company with ISO9000 registration or such proven equivalence.

4. Commercial Structure

The commercial structure that should apply to the above product definition facilitates a price list structure. The unit based approach also limits costs to the both parties in respect of survey and design requirements since bespoke design solutions are not required by the CPs.

The price structure will include the following **capital elements**:

Survey and Design – Upfront capital charge to cover the cost of surveying and designing the co-mingling facilities. There is no requirement to provide a CAD room plan for this product. However a floor plan (paper or electronic format at Openreach's choice will be provided at a minimum 3 weeks before the RFI date)

Environmental Conditioning – Upfront per KW capital charge to cover ventilation provisioning costs and maintenance, provided on the basis of the maximum power that is ordered/provisioned

Co-mingling Set Up – Upfront per deemed square metre charge to cover the cost of providing the co-mingling floor area

ASS – Upfront per rack unit capital charge to cover ASS600 provisioning (see ASS600 Specification)

HDF Connection– Upfront charge to cover the supply/installation of the HDF within the ASS600

Internal Tie Cable– Upfront per internal tie cable charge to cover the supply/installation of the internal tie cable

Sub Metering – where requested, upfront charge to cover cost of provision of a sub meter

Handover – Upfront charge to cover cost of Openreach representative at handover meeting

Site Access – Upfront charge to cover provision of keys, cards, padlocks and programming of electronic access security system

The price structure will include the following **operating cost elements**:

Space Licence Fee - As per hostel product, this will be a standardised rate reflecting the commercial property value on a per square metre per year basis using the floor space occupied by the rack units and ASS, multiplied by the 3.85 gross/net factor (rounded to the nearest square metre, e.g. up if 0.5 or above, down if below 0.5)

Service Charges - As per hostel product, this is a standardised per square metre per year rate and will be levied on a per square metre per year basis using the floor space occupied by the rack units and ASS, multiplied by the 3.85 gross/net factor (rounded to the nearest square metre, e.g. up if 0.5 or above, down if below 0.5)

Internal Tie Cable Rental - As per hostel product, this will be a standardised cost levied on a per internal tie cable per year basis

MDF Licence Fee - As per hostel product, this will be a standardised cost levied on a per internal tie cable per year basis

Power Consumption Charges – Unless sub-metering has been ordered, power will not be metered and will be charged on a per kWh basis of the initial power specified in the Weekly Order Form, adjusted when advised to maximum power provisioned

ESS Power Supply – where requested, per kw charge to cover costs of ESS supply

Non ESS Power Supply – where ESS is not requested, or not available, per kw charge to cover costs of AC mains supply

Final Distribution – charge to cover cost of providing power distribution cabling from the floor of use to the operator facility in the MUA

Security Partitioning Rental – standard annual rental cost payable per site to cover costs of securing critical network equipment

5. Glossary

LLU	Local Loop Unbundling
CPs	Communication Providers.
RSU	Rack Space Unit
UPS	Uninterrupted Power Supply
HDF	Handover Distribution Frame
ASS	Ancillary Services Rack
ASS600	ASS600 Product
BSA	Bay Services Assembly
MUA	Multi User Area
ESS	Essential Services Supply
MDF	Main Distribution Frame
PSTN	Public Switched Telephone Network

6. References

BT Interconnect website	http://www.btinterconnect.com local loop unbundling
ASS600 specification drawing Issue 3b	Accessible via the above webpage

7. Document History/Issue Control

Requests for change to this document should be directed to the author.

Date	Status	Author	Details
13.03.03	Issue 4	Bob Hornby	Revisions to power provision section
23.06.03	Draft 5a	Martin Edwards	Change of author and revisions to document for comment and agreement
17.07.03	Issue 5	Martin Edwards	Revised document issued following agreement at LLU Commercial Process & policy meeting 16.07.03
21.11.03	Issue 6	Martin Edwards	Revisions to document specifically removal of bespoke elements section.

21.09.04	Issue7	Martin Edwards	Updated to change from co mingling specification to ASS600 Product specification following introduction of new products.
29.09.04	Issue 8	Martin Edwards	Inclusion on WEEE regulations in section 3.13
31/12/2006	Issue 9	Martin Edwards	Document revised to Openreach branding. No material changes made to content or structure.

End