

## E.164 Numbering Scheme

for

**English Local Education Authorities and Regional Broadband Consortia,**

**Scottish Local Education Authorities and National Agencies,**

**Welsh Unitary Authorities and Education Boards in Northern Ireland**

UKERNA

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After consideration of the views express by interested parties, the following E.164 numbering scheme will be operated for videoconferencing services provided to primary and secondary education throughout England, Scotland and Wales (*Note: the structure of addresses for Northern Ireland is different and is detailed in Annex 4*).

### Structure of Addresses

The structure of each E.164 address will accord to the following scheme.

|                        |                         |  |                  |              |
|------------------------|-------------------------|--|------------------|--------------|
| <b>UKERNA assigned</b> |                         | <b>End user assigned.</b> The schema detailed here was initially recommended by the RBC Technical Group and now being used throughout the UK schools sector. |                  |              |
| International Prefix   | Local / Regional Prefix | Category   | Organisation ID. | End-Point ID |
| 0044                   | 02xxx<br>(5 digits)     | 1 digit  | 4 digits         | 3 digits     |

The **UKERNA assigned** part of the address is structured as follows:

|                       |   |
|-----------------------|---|
| International Prefix  | The international dialling code for the United Kingdom.   |
| Local/Regional Prefix | Unique 5-digit code to represent either a LEA or a regional grouping. It is expected that endpoints identified with a LEA will be addressed within the LEA's Prefix. Endpoints that are part of a regional infrastructure (such as those which might be operated by a RBC on behalf of others within the region) should be addressed within the regional grouping Prefix. |

The annexes to this document list the Local/Regional Prefixes that are currently assigned. Annex 1 lists those assigned to English LEAs and RBCs. Annex 2 lists the prefixes assigned to Scottish LEAs and National Bodies. Annex 3 lists prefixes assigned to the Welsh Unitary Authorities.

The English RBC Technical Group recommends that the End-user assigned part of the address is structured as follows:

|                 |  |                                    |
|-----------------|--|------------------------------------|
| Category        | A single digit defining the category of connection. This has a defined set of values, and therefore can be used to interpret the following digits of the address. UKERNA maintains the list of defined values on behalf of the RBC Technical Group. To date four values have been defined: |                                    |
|                 | 1  | School                             |
|                 | 2  | Museums, Libraries and Archives    |
|                 | 3  | Local Authority                    |
|                 | 4  | Adult or Community Learning Centre |
| Organisation ID | 4 digits to define the particular organisation within category. For a school this will be the last 4 digits of the 7-digit DfES national school number (i.e. it will be unique within a LEA).  |                                    |
| End-point ID    | 3 digits to be defined by the organisation to identify individual endpoints within the organisation's site(s).   |                                    |

### Constraints on Assignment of Addresses

The above scheme is a total of 17 digits in length. The recommendation for the length of E.164 addresses by the ITU is also 17 digits. It is recommended that no more than this number of digits be used, to retain future compatibility with any future schemes developed within the ITU framework (e.g. the possible integration of videoconferencing and voice telephony.) If an organisation nevertheless intends to use more than 17 digits, it is strongly recommended that before implementation it checks that its equipment can support E.164 addresses with more than 17 digits.

If the RBC scheme for the End-user assigned part of the address is not followed, implementers should note that it is recommended that the first digit of this part should not be zero. This is because zero is sometimes used as an escape code in schemes that allow the End-user assigned part of the address only to be used in a local context (c.f. the use of telephone numbers within a local dialling area without the need to prefix it with the national dialling code).

## Annex 1: Local/Regional Prefixes for English Local Education Authorities and Regional Broadband Consortia

### Portability of Local/Regional Prefixes in England

The Local/Regional Prefixes have been assigned on a regional basis and in contiguous blocks. This is to facilitate their use by RBCs or other regional co-ordinating organisations. The assignment and therefore block structure was made using the membership of the ten RBCs in May 2003.

If a LEA should leave a RBC, UKERNA reserves the right to require it to relinquish its Prefix, if in UKERNA's opinion retention of the Prefix would cause operational difficulties. In this event a new Prefix would be assigned to the LEA.

If a LEA should join a RBC, or transfer between RBCs, the same consideration will apply to any Prefix which it currently holds. The assignment of contiguous blocks has been made in a manner that allows a small number of additional Prefixes subsequently to be assigned to a regional block, should the need arise.

| English LEAs which are members of RBCs                                      | Prefix |
|---|--------|
| <b>Cumbria &amp; Lancashire Education Online</b>                            | 02000  |
| Cumbria   | 02001  |
| Lancashire  | 02002  |
| <b>East Midlands Broadband Consortium (Central Server Farm)<sup>1</sup></b> | 02010  |
| Derby City  | 02011  |
| Derbyshire  | 02012  |
| Leicester City  | 02013  |
| Leicestershire  | 02014  |
| Lincolnshire  | 02015  |
| Northamptonshire  | 02016  |
| Nottingham City   | 02017  |
| Nottinghamshire   | 02018  |
| Rutland   | 02019  |
| <b>East of England Regional Broadband Consortium</b>                        | 02020  |
| Cambridgeshire  | 02021  |
| Hertfordshire   | 02022  |
| Bedfordshire  | 02023  |

<sup>1</sup> These addresses are used for East Midlands LEAs and LAs which use the Central Server Farm. Some LEAs may install their own gatekeepers at a later date and will then use other (pre-assigned) space for this, but the corresponding LA would then continue to use the present space.

|                                 |       |
|---------------------------------|-------|
| Norfolk                         | 02024 |
| Suffolk                         | 02025 |
| Essex                           | 02026 |
| Peterborough                    | 02027 |
| Milton Keynes                   | 02028 |
| Luton                           | 02029 |
| Thurrock                        | 02030 |
| Southend-on-Sea                 | 02031 |
| <b>London Grid for Learning</b> | 02035 |
| Barking and Dagenham            | 02036 |
| Barnet                          | 02037 |
| Bexley                          | 02038 |
| Brent                           | 02039 |
| Bromley                         | 02040 |
| Camden                          | 02041 |
| Corporation of London           | 02042 |
| Croyden                         | 02043 |
| Ealing                          | 02044 |
| Enfield                         | 02045 |
| Greenwich                       | 02046 |
| Hackney                         | 02047 |
| Hammersmith and Fulham          | 02048 |
| Haringey                        | 02049 |
| Harrow                          | 02050 |
| Havering                        | 02051 |
| Hillingdon                      | 02052 |
| Hounslow                        | 02053 |
| Islington                       | 02054 |
| Kensington and Chelsea          | 02055 |
| Kingston                        | 02056 |
| Lambeth                         | 02057 |
| Lewisham                        | 02058 |
| Merton                          | 02059 |
| Newham                          | 02060 |
| Redbridge                       | 02061 |
| Richmond                        | 02062 |
| Southwark                       | 02063 |

|                                    |       |
|------------------------------------|-------|
| Sutton                             | 02064 |
| Tower Hamlets                      | 02065 |
| Waltham Forest                     | 02066 |
| Wandsworth                         | 02067 |
| Westminster                        | 02068 |
| Assigned to LGfL                   | 02069 |
| Assigned to LGfL                   | 02070 |
| Hillingdon                         | 02073 |
| <b>North West Learning Grid</b>    | 02075 |
| Blackburn with Darwen              | 02076 |
| Blackpool                          | 02077 |
| Bolton                             | 02078 |
| Bury                               | 02079 |
| Cheshire                           | 02080 |
| Halton                             | 02081 |
| Knowsley                           | 02082 |
| Liverpool                          | 02083 |
| Manchester                         | 02084 |
| Oldham                             | 02085 |
| Rochdale                           | 02086 |
| Salford                            | 02087 |
| Sefton                             | 02088 |
| St Helens                          | 02089 |
| Stockport                          | 02090 |
| Trafford                           | 02091 |
| Warrington                         | 02092 |
| Wirral                             | 02093 |
| Assigned to NWLG                   | 02094 |
| <b>Northern Grid for Learning</b>  | 02100 |
| North Tyneside                     | 02101 |
| South Tyneside                     | 02102 |
| Gateshead                          | 02103 |
| Middlesborough                     | 02104 |
| <i>available for re-assignment</i> | 02105 |
| Darlington                         | 02106 |
| <i>available for re-assignment</i> | 02107 |
| Stockton-on-Tees                   | 02108 |

|   |       |
|---|-------|
| Hartlepool                              | 02109 |
| Redcar and Cleveland                    | 02110 |
| <i>available for re-assignment</i>      | 02111 |
| <i>available for re-assignment</i>      | 02112 |
| <b>South East Grid for Learning</b>     | 02115 |
| Bracknell Forest                        | 02116 |
| Brighton & Hove                         | 02117 |
| Buckinghamshire                         | 02118 |
| East Sussex                             | 02119 |
| Hampshire                               | 02120 |
| Isle of Wight                           | 02121 |
| Kent                                    | 02122 |
| Medway                                  | 02123 |
| Portsmouth                              | 02124 |
| Reading                                 | 02125 |
| Royal Borough of Windsor and Maidenhead | 02126 |
| Slough                                  | 02127 |
| Southampton                             | 02128 |
| Surrey                                  | 02129 |
| West Berkshire                          | 02130 |
| West Sussex                             | 02131 |
| Wokingham                               | 02132 |
| Hampshire                               | 02133 |
| <b>South West Grid for Learning</b>     | 02135 |
| Bath and North East Somerset            | 02136 |
| Bournemouth                             | 02137 |
| Bristol                                 | 02138 |
| Cornwall                                | 02139 |
| Devon                                   | 02140 |
| Dorset                                  | 02141 |
| Gloucestershire                         | 02142 |
| North Somerset                          | 02143 |
| Plymouth                                | 02144 |
| Poole                                   | 02145 |
| Somerset                                | 02146 |
| South Gloucestershire                   | 02147 |
| Swindon                                 | 02148 |

|   |       |
|---|-------|
| Torbay  | 02149 |
| Wiltshire   | 02150 |
| <b>West Midlands Broadband Project</b>                        | 02155 |
| Birmingham  | 02156 |
| Dudley  | 02157 |
| Sandwell  | 02158 |
| Walsall   | 02159 |
| Shropshire  | 02160 |
| Staffordshire   | 02161 |
| Coventry  | 02162 |
| Herefordshire   | 02163 |
| Worcestershire  | 02164 |
| Warwickshire  | 02165 |
| Wolverhampton   | 02166 |
| Stoke on Trent  | 02167 |
| Telford & the Wrekin  | 02168 |
| Solihull  | 02169 |
| Telford & the Wrekin  | 02170 |
| <b>Yorkshire &amp; Humberside Community Grid for Learning</b> | 02175 |
| Sheffield   | 02176 |
| <i>available for re-assignment</i>                            | 02177 |
| East Riding of Yorkshire                                      | 02178 |
| North Yorkshire   | 02179 |
| North Lincolnshire  | 02180 |
| North East Lincolnshire                                       | 02181 |
| Doncaster   | 02182 |
| Rotherham   | 02183 |
| Hull  | 02184 |
| Kirkley   | 02185 |
| Causerdale  | 02186 |
| Wakefield   | 02187 |

| <b>English LEAs which are not members of RBCs</b> | <b>Prefix</b> |
|---|---------------|
| Barnsley  | 02200         |
| Bradford  | 02201         |
| Oxford  | 02202         |
| Tameside  | 02203         |

|       |       |
|-------|-------|
| Wigan | 02204 |
| York  | 02205 |
| Leeds | 02206 |

| <b>Pre-assigned for East Midlands LEAs using their own gatekeepers</b> | <b>Prefix</b> |
|--|---------------|
| East Midlands Broadband Consortium                                     | 02210         |
| Derby City   | 02211         |
| Derbyshire   | 02212         |
| Leicester City   | 02213         |
| Leicestershire   | 02214         |
| Lincolnshire   | 02215         |
| Northamptonshire   | 02216         |
| Nottingham City  | 02217         |
| Nottinghamshire  | 02218         |
| Rutland  | 02219         |

| <b>LEAs served by Derwentside District Council</b> | <b>Prefix</b> |
|--|---------------|
| Durham   | 02225         |
| Newcastle upon Tyne                                | 02226         |
| Northumberland                                     | 02227         |
| Sunderland   | 02228         |

## Annex 2: Local/Regional Prefixes for Scottish Local Education Authorities and National Agencies

### Portability of Local/Regional Prefixes in Scotland

The Local/Regional Prefixes have been assigned on a consecutive basis. This is to facilitate their use by LEAs or other regional co-ordinating organisations. If a LEA should leave the SSDN Interconnect, UKERNA reserves the right to require it to relinquish its Prefix, if in UKERNA's opinion retention of the Prefix would cause operational difficulties. In this event a new Prefix would be assigned to the LEA.

If a new organisation should join the SSDN Interconnect, the same consideration will apply to any Prefix which it currently holds. Any additional Prefixes subsequently required will be the next available prefix from the end of the current sequence.

| Local Authority/National body             | prefix |
|---|--------|
| Aberdeen City Council                     | 02300  |
| Aberdeenshire Council                     | 02301  |
| Angus Council                             | 02302  |
| Argyll & Bute Council                     | 02303  |
| Clackmannanshire Council                  | 02304  |
| Comhairle Nan Eilean Siar (Western Isles) | 02305  |
| Dumfries and Galloway Council             | 02306  |
| Dundee City Council                       | 02307  |
| East Ayrshire Council                     | 02308  |
| East Dunbartonshire Council               | 02309  |
| East Lothian Council                      | 02310  |
| East Renfrewshire Council                 | 02311  |
| Edinburgh City Council                    | 02312  |
| Falkirk Council                           | 02313  |
| Fife Council                              | 02314  |
| Glasgow Council, City of                  | 02315  |
| Highland Council                          | 02316  |
| Inverclyde Council                        | 02317  |
| Midlothian Council                        | 02318  |
| Moray Council                             | 02319  |
| North Ayrshire Council                    | 02320  |
| North Lanarkshire Council                 | 02321  |

|                                   |       |
|-----------------------------------|-------|
| Orkney Islands Council            | 02322 |
| Perth & Kinross Council           | 02323 |
| Renfrewshire Council              | 02324 |
| Scottish Borders Council          | 02325 |
| Shetland Islands Council          | 02326 |
| South Ayrshire Council            | 02327 |
| South Lanarkshire Council         | 02328 |
| Stirling Council                  | 02329 |
| West Dunbartonshire Council       | 02330 |
| West Lothian Council              | 02331 |
| Learning and Teaching Scotland    | 02332 |
| Scottish Qualifications Authority | 02333 |
| SEEMIS                            | 02334 |

## Annex 3: Local/Regional Prefixes for Welsh Unitary Authorities

### Portability of Local/Regional Prefixes in Wales

The Local/Regional Prefixes have been assigned on a consecutive basis. This is to facilitate their use by (UA) Unitary Authorities or other regional co-ordinating organisations. If there are changes to the UAs, UKERNA reserves the right to require amendments to assigned Prefixes, if in UKERNA's opinion retention of the existing Prefix would cause operational difficulties.

Any additional Prefixes subsequently required will be the next available prefix from the end of the current sequence.

| Welsh Local Authority | Prefix |
|-----------------------|--------|
| Anglesey              | 02400  |
| Blaenau Gwent         | 02401  |
| Bridgend              | 02402  |
| Caerphilly            | 02403  |
| Cardiff               | 02404  |
| Carmarthenshire       | 02405  |
| Ceredigion            | 02406  |
| Conwy                 | 02407  |
| Denbighshire          | 02408  |
| Flintshire            | 02409  |
| Gwynedd               | 02410  |
| Merthyr Tydfil        | 02411  |
| Monmouthshire         | 02412  |
| Neath Port Talbot     | 02413  |
| Newport               | 02414  |
| Pembrokeshire         | 02415  |
| Powys                 | 02416  |
| Rhondda Cynon Taff    | 02417  |
| Swansea               | 02418  |
| Torfaen               | 02419  |
| Vale of Glamorgan     | 02420  |
| Wrexham               | 02421  |

## Annex 4: Local/Regional Prefixes for Education Boards in Northern Ireland

### C2KNI E.164 numbering scheme for use with the Global Dialling Scheme

C2KNI will be using the full 17 digits of the E.164 number to allocate numbers to endpoints. The endpoint can be identified by the DENI number which is incorporated in to the E.164 number. As the DENI number consists of 7 digits the organisation prefix of 02XXX has been stripped down to 02X with the remaining two XX's now being used by the first two digits of the DENI number.

| UKERNA assigned      |                   | End user assigned. The schema detailed here is recommended by C2KNI |                   |                 |                 |                    |
|----------------------|-------------------|---|-------------------|-----------------|-----------------|--------------------|
| International prefix | Regional Prefix   | School Board Identifier   | Organisation Type | Management Code | Organisation ID | Endpoint Extension |
| 0044                 | 025<br>(3 digits) | 1 digit   | 1 digit           | 1 digit         | 4 digits        | 3 digits           |

C2KNI recommends that the End-user assigned part of the address is structured as follows:

|                   |   |  |
|-------------------|---|--|
| Organisation Type | A single digit defining the Organisation Type of connection. This has a defined set of values, and therefore can be used to interpret the following digits of the address. UKERNA maintains the list of defined values on behalf of C2KNI. To date four values have been defined: |  |
|                   | 0   | Primary school                         |
|                   | 1   | Nursery school                         |
|                   | 2   | Secondary (Non- Grammar) school        |
|                   | 3   | Special school                         |
|                   | 4   | Secondary (Grammar) school             |
|                   | 5   | College of Further Education           |
|                   | 6   | Preparatory school                     |
|                   | 7   | Museum or Arts Organisation, Libraries |
|                   | 8   | Local authorities eg City Councils     |
|                   | 9   | Other such as Community Centres        |
| Management Code   | 1   | Controlled                             |
|                   | 2   | Voluntary                              |
|                   | 3   | Roman Catholic Maintained              |
|                   | 4   | Other Maintained                       |
|                   | 5   | Controlled Integrated                  |
|                   | 6   | Grant Maintained Integrated            |
|                   | 0   | Other                                  |

|                 |  |
|-----------------|--|
| Organisation ID | Four digits identifying a particular school or other organisation  |
| End-point ID    | 3 digits to be defined by the organisation to identify individual endpoints within the organisation's site(s). |

## Portability of Local/Regional Prefixes in Northern Ireland

The Local/Regional Prefixes have been assigned on a consecutive basis. This is to facilitate their use by Education Boards or other regional co-ordinating organisations. If there are changes to the Education Boards, UKERNA reserves the right to require amendments to assigned Prefixes, if in UKERNA's opinion retention of the existing Prefix would cause operational difficulties.

Any additional Prefixes subsequently required will be the next available prefix from the end of the current sequence

| Education Boards in Northern Ireland | Prefix |
|--------------------------------------|--------|
| BELB                                 | 0251   |
| WELB                                 | 0252   |
| NEELB                                | 0253   |
| SEELB                                | 0254   |
| SELB                                 | 0255   |
| Not Board specific                   | 0256   |
| External Organisation (not a school) | 0259   |