

**“Mixed Bathing” Single Assignments
for all Fixed Service Architectures
Discussion Paper**

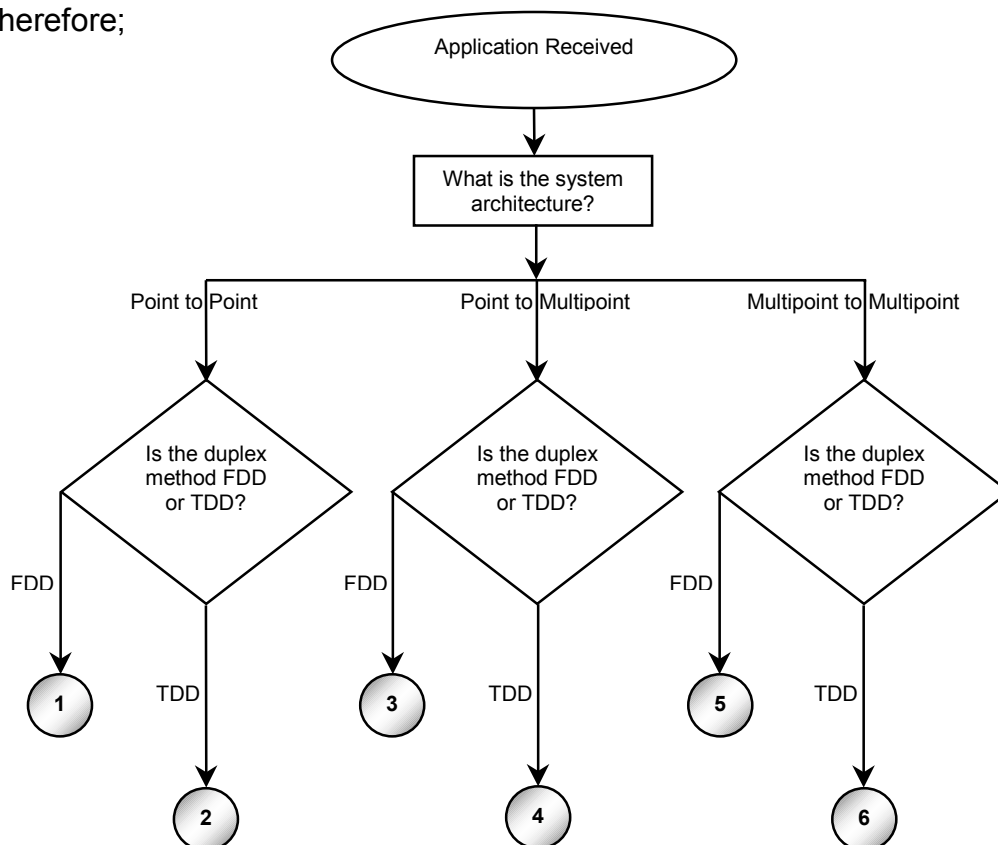
Issue:

Proposed base model for making location specific, “single” assignments in architecture neutral, environment.

Proposal

To specify the baseline on how the assigns, are made “singularly”/per site basis.

Therefore;



As shown above there are six potential separate models that become apparent. Each will have it's own technical requirements and considerations. However a common 'model' will need to be arrived at to ascertain sharing criteria.

As these models have very different coverage/linkage parameters, it therefore not immediately apparent, how to plan. Initially it could be argued that a P-MP base station could still be planned on the basis of specifying the terminal stations as the network grows (star network from point to point links). However this model would be unable to predict the most compromised terminal station and may therefore require complete system re-engineering for an added terminal. The argument is further pushed towards a coverage model as P-MP and MP-MP both come from a coverage perspective, rather than the location “linkage” perspective

Proposed Model

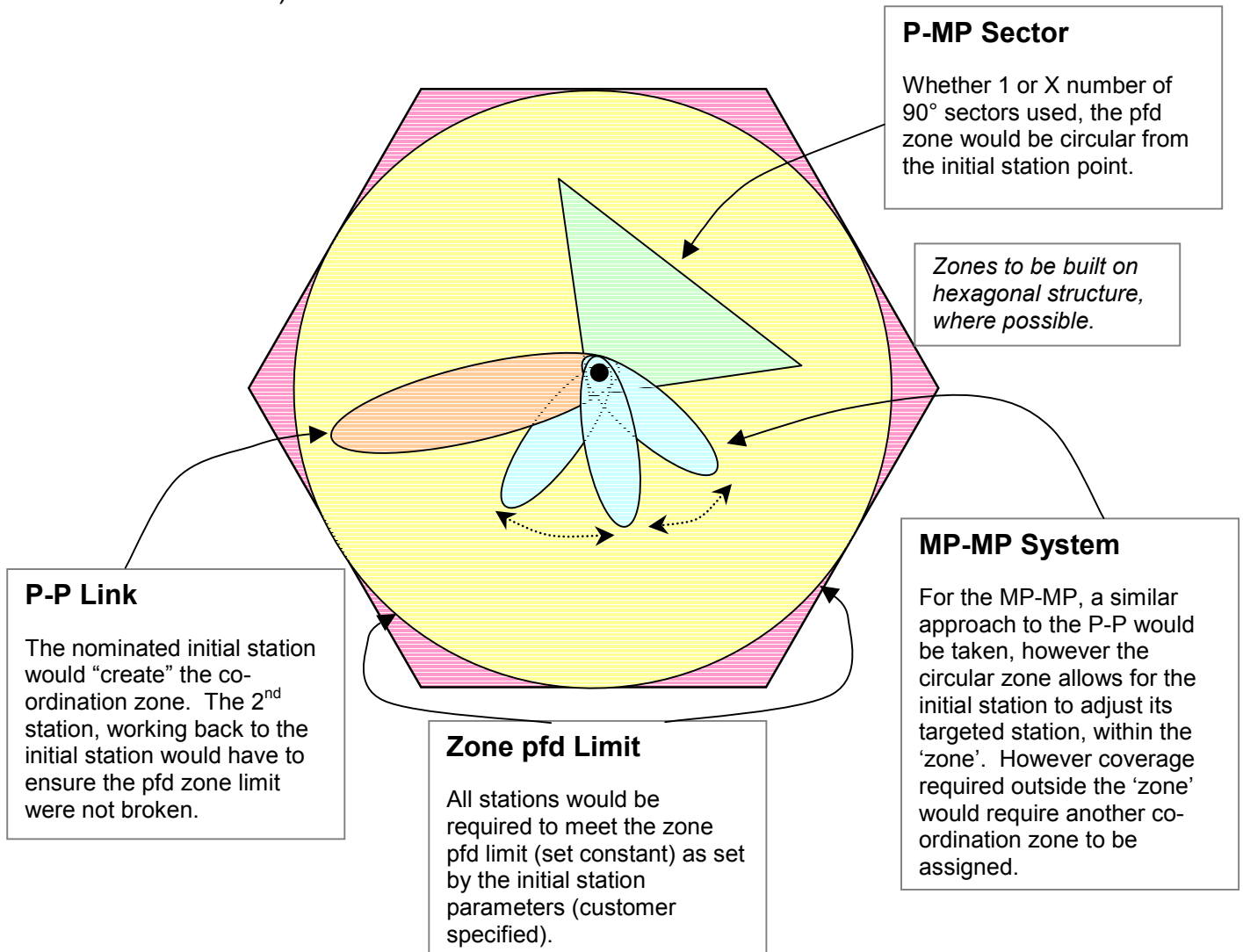
Therefore, it would seem logical, because of the more coverage focused perspective to use this model. This would *plan* assignments from that perspective;

- 1) Location and Height details of the (i) end one, of the P-P link (ii) position of the Point to Multipoint base/hub/central station (iii) position of the mesh terminal. *This is reasonably non-negotiable and easy to record, in either UK NGR (National Grid Reference or Latitude/or Longitude).*
- 2) Duplex method to be identified. *This should be an upfront requirement.*
- 3) Bandwidth for the terminal at the location specified above. *If we are to have a truly transparent, technology neutral assignment process, then it would be difficult to limit bandwidth, other than on a interference basis (Cave Review). Therefore allow in the application, but charge accordingly.*
- 4) ETSI mask to be used: to be identified. *This will need to be recorded so as to allow for possible planning “around” the assignment and will have a marked bearing if we allow contiguous assignments in the harmonised band plan. This may also give “scope” for applicants to volunteer enhanced masks, though this cannot be required. Will be needed where different amounts of spectrum have been applied for and where there is a TDD/FDD mix.*
- 5) Require the EIRP of the specified terminal to be submitted. *This will need to be specified for that 1st terminal and ignores the directivity and gain (other than to arrive at the EIRP figure).*

Other baseline parameters, not considered.

Co-ordination Zone Approach

The following shows how the approach co-ordination zone would approach assignments, in a pure technology neutral approach (i.e. all three architectures).



Clarification

- P-P

'Zone' coverage area dictated by the EIRP from the initial, central station. This would be with an EIRP (set by the customer-specified parameters) into an omni directional radiator. The initial station and the 'other end of link' would be required to meet the zonal pfd limit.

- P-MP

'Zone' coverage area dictated by the EIRP from the initial, central station. This would be with an EIRP (set by the customer-specified parameters) into an omni directional radiator. This would be regardless of the number of sectors. All sectors and terminal stations would be required to meet the zonal pfd limit.

- MP-MP

The initial station would set the coverage zone from the EIRP specified by the applicant. This again would be planned into an omni-directional antenna, to establish the 'zone'. As with the others, all stations in the network would permit operation within the zone. However operation to a level that exceeds the zone, would require an additional zone to be assigned.

Application Considerations

Power levels should be within the limits for generic station used in studies in CEPT,

There would be no limit on the bandwidth applied for,

Zones to be planned on a flat earth, zero terrain, model or use agreed commercial coverage planning tool?

Pricing to be a multiple function of bandwidth applied for and coverage² on the ground.

All assignments would be on a first come, first served, approach.

Questions?

- Should C/I or C/N be used?
- Should we retain 'split' assignments for TDD systems, or use a completely 'open' spectrum approach (contiguous blocks)?
- Band segmentation for architectures or fully open band for all?
- Specify a common block edge mask for all assignments (i.e. CEPT "Multi Point Co-existence Draft Report") or require specified ETSI mask at application?

More.....

RA

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