```
ma-single-pre1-feasible  THM

⊢  ∀a:Id, T,A:Type, x:Id, P:(A→T→Prop).
|  T
|  ⇒
|  A
|  ⇒
|  (∀a:A. Dec(∃v:T. P(a,v)))
|  ⇒
|  Feasible(ma-single-pre1(x;A;a;T;x,v.P(x,v)))
| by Auto THEN AssertBY (x : A ∈ x:Id fp-> Type) Auto
|    THEN
|    Unfold ‘ma-single-pre1‘ 0
|    THEN
|    BackThru
|    Thm* ∀a:Id, T:Type, ds:x:Id fp-> Type, P:(State(ds)→T→Prop).
|         T
|         ⇒
|         ∀x∈dom(ds). A=ds(x) ⇒  A
|         ⇒
|         (∀s:State(ds). Dec(∃v:T. P(s,v)))
|         ⇒
|         Feasible((with ds: ds
|          action a:T
|          precondition a(v) is
|          P s v))
|    {ma_DASH_single_DASH_pre_DASH_feasible}
|    THEN
|    Try (Complete (Auto THEN Fold ‘ma-state‘ 0))
|
1. Id
2. T : Type
3. A : Type
4. x : Id
5. P : A→T→Prop
6. T
7. A
8. ∀a:A. Dec(∃v:T. P(a,v))
9. x : A ∈ x:Id fp-> Type
⊢  ∀x∈dom(x : A). A=x : A(x) ⇒  A
  by Unfold ‘fpf-all‘ 0 THEN Unfolds [‘fpf-ap‘;‘fpf-single‘] 0
     THEN
     Reduce 0
END
```