Demo: Everything under One Roof.

Ron Burback

Lecture 15

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dcecp> directory list /.:/

```
dcecp> dir list /.:/
/.../stanford.edu/application
/.../stanford.edu/dceauth3_test
/.../stanford.edu/encina
/.../stanford.edu/hosts
/.../stanford.edu/subsys
/.../stanford.edu/try
/.../stanford.edu/users
/.../stanford.edu/arithmetic_serverhost
/.../stanford.edu/cell-profile
/.../stanford.edu/dceauth1_ch
/.../stanford.edu/dceauth3_ch
/.../stanford.edu/fs
/.../stanford.edu/grade
/.../stanford.edu/lan-profile
/.../stanford.edu/sec
/.../stanford.edu/sec-v1
/.../stanford.edu/appl_link
```

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dcecp> directory show /.:/

```
dcecp> dir show /.:/
{RPC_ClassVersion {01 00}}
{CDS_CTS 1995-12-05-05:52:37.368486100/24-15-00-4f-aa-77}
{CDS_UTS 1996-07-08-09:55:53.172375100/24-15-00-4f-aa-77}
{CDS_ObjectUUID 2ded822e-2f0c-11cf-a27d-2415004faa77}
{CDS_Replicas
 {{CH_UUID 2d83ded2-2f0c-11cf-a27d-2415004faa77}
  {CH_Name /.../stanford.edu/dceauth1_ch}
  {Replica_Type Master}
  {Tower {ncacn_ip_tcp 36.21.0.79}}
  {Tower {ncadg_ip_udp 36.21.0.79}}}
 {{CH_UUID ab589be6-9ed7-11cf-8b3c-2453001eaa77}
  {CH_Name /.../stanford.edu/dceauth3_ch}
  {Replica_Type ReadOnly}
  {Tower {ncacn_ip_tcp 36.83.0.30}}
  {Tower {ncadg_ip_udp 36.83.0.30}}}}
{CDS_AllUpTo 1996-07-09-00:55:53.090132100/24-15-00-4f-aa-77}
{CDS_Convergence medium}
{CDS_InCHName allowed}
{CDS_DirectoryVersion 3.0}
{CDS_ReplicaState on}
{CDS_ReplicaType ReadOnly}
{CDS_LastSkulk 0}
{CDS_LastUpdate 0}
{CDS_Epoch 2ded8166-2f0c-11cf-a27d-2415004faa77}
{CDS_ReplicaVersion 3.0}
{CDS_GDAPointers
 {{Timeout
    {expiration 1996-07-09-03:55:52.888}
    {extension +1-00:00:00.000I0.000}}
  {CH_UUID 65c5a0e6-2f0c-11cf-b667-2415004faa77}
  {CH_Name /.../stanford.edu/dceauth1.Stanford.EDU_gda}
  {Replica_Type Gda}
  {Tower {ncacn_ip_tcp 36.21.0.79}}
  {Tower {ncadg_ip_udp 36.21.0.79}}}
 {{Timeout
    {expiration 1996-07-09-09:55:52.918}
    {extension +1-00:00:00.000I0.000}}
  {CH_UUID bcee83de-9ed7-11cf-bff8-2453001eaa77}
  {CH_Name /.../stanford.edu/dceauth3.Stanford.EDU_gda}
  {Replica_Type Gda}
  {Tower {ncacn_ip_tcp 36.83.0.30}}
  {Tower {ncadg_ip_udp 36.83.0.30}}}}

dcecp>
```

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dcecp> directory list /.:/hosts

```
dcecp> directory list /.:/hosts
/.../stanford.edu/hosts/burback
/.../stanford.edu/hosts/dceauth1
/.../stanford.edu/hosts/dceauth2
/.../stanford.edu/hosts/dceauth3
/.../stanford.edu/hosts/dfs1
/.../stanford.edu/hosts/encina1
/.../stanford.edu/hosts/hpdev
/.../stanford.edu/hosts/lunaris
/.../stanford.edu/hosts/ninja1
/.../stanford.edu/hosts/ninja2
/.../stanford.edu/hosts/ninja3
/.../stanford.edu/hosts/ninja4
/.../stanford.edu/hosts/oracledb
/.../stanford.edu/hosts/sweetdb
/.../stanford.edu/hosts/weasel
```

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dcecp> directory show /.:/hosts

```
dcecp> directory show /.:/hosts
{RPC_ClassVersion {01 00}}
{CDS_CTS 1995-12-05-05:52:47.577621100/24-15-00-4f-aa-77}
{CDS_UTS 1996-07-09-03:55:54.011166100/24-15-00-4f-aa-77}
{CDS_ObjectUUID 34034aae-2f0c-11cf-a27d-2415004faa77}
{CDS_Replicas
 {{CH_UUID 2d83ded2-2f0c-11cf-a27d-2415004faa77}
  {CH_Name /.../stanford.edu/dceauth1_ch}
  {Replica_Type Master}
  {Tower {ncacn_ip_tcp 36.21.0.79}}
  {Tower {ncadg_ip_udp 36.21.0.79}}}}
{CDS_AllUpTo 1996-07-09-03:55:54.040537100/24-15-00-4f-aa-77}
{CDS_Convergence medium}
{CDS_ParentPointer
 {{Parent_UUID 2ded822e-2f0c-11cf-a27d-2415004faa77}
  {Timeout
   {expiration 1996-07-10-03:55:53.019}
   {extension +1-00:00:00.000I0.000}}
  {myname /.../stanford.edu/hosts}}}
{CDS_DirectoryVersion 3.0}
{CDS_ReplicaState on}
{CDS_ReplicaType Master}
{CDS_LastSkulk 1996-07-09-03:55:54.040537100/24-15-00-4f-aa-77}
{CDS_LastUpdate 1996-07-09-03:55:54.011166100/24-15-00-4f-aa-77}
{CDS_Epoch 3407a946-2f0c-11cf-a27d-2415004faa77}
{CDS_ReplicaVersion 3.0}
```

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/.:/SEC is a rpc group

```
dcecp> directory list /.:/sec
Error: Requested entry does not exist
dcecp> directory show /.:/sec
Error: Requested entry does not exist
dcecp> object show /.:/sec
{RPC_ClassVersion {01 00}}
{RPC_ObjectUUIDs
 {6a 78 95 9f 0b 2f cf 11 a8 06 24 15 00 4f aa 77}}
{RPC_Group
 {2f 2e 2e 2e 2f 73 74 61 6e 66 6f 72 64 2e 65 64 75 2f 73 75 62
  73 79 73 2f 64 63 65 2f 73 65 63 2f 6d 61 73 74 65 72 00}
 {2f 2e 2e 2e 2f 73 74 61 6e 66 6f 72 64 2e 65 64 75 2f 73 75 62
  73 79 73 2f 64 63 65 2f 73 65 63 2f 64 63 65 61 75 74 68 32 5f
  73 6c 61 76 65 00}}
{CDS_CTS 1995-12-05-05:52:48.701138100/24-15-00-4f-aa-77}
{CDS_UTS 1996-04-15-20:26:38.551858100/24-15-00-4f-aa-77}
{CDS_Class RPC_Group}
{CDS_ClassVersion 1.0}
dcecp> rpcgroup list /.:/sec
/.../stanford.edu/subsys/dce/sec/master
/.../stanford.edu/subsys/dce/sec/dceauth2_slave
```

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/.:/fs is a group

```
dcecp> directory list /.:/fs
Error: Requested entry does not exist
dcecp> directory show /.:/fs
Error: Requested entry does not exist
dcecp> object show /.:/fs
{RPC_ClassVersion {01 00}}
{RPC_ObjectUUIDs
 {88 ba bc 35 0c 2f cf 11 98 7a 24 15 00 4f aa 77}}
{RPC_Group
 {2f 2e 2e 2e 2f 73 74 61 6e 66 6f 72 64 2e 65 64 75 2f 68 6f 73
  74 73 2f 64 66 73 31 2f 73 65 6c 66 00}}
{CDS_CTS 1995-12-05-05:52:53.470490100/24-15-00-4f-aa-77}
{CDS_UTS 1996-05-07-11:57:20.545956100/24-15-00-4f-aa-77}
{CDS_Class RPC_Entry}
{CDS_ClassVersion 1.0}
dcecp> rpcgroup list /.:/fs
/.../stanford.edu/hosts/dfs1/self
```

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cell-profile

```
dcecp> rpcprofile list /.:/cell-profile
/.../stanford.edu/sec
/.../stanford.edu/sec-v1
/.../stanford.edu/sec
/.../stanford.edu/sec
/.../stanford.edu/sec
/.../stanford.edu/lan-profile
/.../stanford.edu/fs
/.../stanford.edu/subsys/dce/dfs/bak
dcecp> rpcprofile show /.:/cell-profile
{{d46113d0-a848-11cb-b863-08001e046aa5 2.0} /.../stanford.edu/sec 0 rs_bind}
{{0d7c1e50-113a-11ca-b71f-08001e01dc6c 1.0} /.../stanford.edu/sec-v1 0 secidmap}
{{8f73de50-768c-11ca-bffc-08001e039431 1.0} /.../stanford.edu/sec 0 krb5rpc}
{{b1e338f8-9533-11c9-a34a-08001e019c1e 1.0} /.../stanford.edu/sec 0 rpriv}
{{b1e338f8-9533-11c9-a34a-08001e019c1e 1.1} /.../stanford.edu/sec 0 rpriv}
{{6f264242-b9f8-11c9-ad31-08002b0dc035 1.0} /.../stanford.edu/lan-profile 0 LAN}
{{4d37f2dd-ed43-0000-02c0-37cf2e000001 4.0} /.../stanford.edu/fs 0 fs}
{{eb814e2a-0099-11ca-8678-02608c2ea96e 4.0} /.../stanford.edu/subsys/dce/dfs/bak
0 bak}
dcecp>
```

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rpc object

```
dcecp> directory show /.../stanford.edu/grade
Error: Requested entry does not exist
dcecp> object show /.../stanford.edu/grade
{RPC_ClassVersion {01 00}}
{CDS_CTS 1995-12-18-17:01:50.461534100/24-15-00-4f-aa-77}
{CDS_UTS 1996-04-30-11:28:07.941273100/24-15-00-4f-aa-77}
{CDS_Towers
 {ncacn_ip_tcp 36.190.0.137}
 {ncadg_ip_udp 36.190.0.137}
 {ncacn_ip_tcp 36.190.0.110}
 {ncadg_ip_udp 36.190.0.110}
 {ncacn_ip_tcp 36.190.0.184}
 {ncadg_ip_udp 36.190.0.184}}
dcecp> rpcentry show /.../stanford.edu/grade
{f657c75c-277f-11cc-88c5-08002b1d3118 1.0
  {ncacn_ip_tcp 36.190.0.110}
  {ncacn_ip_tcp 36.190.0.184}
  {ncadg_ip_udp 36.190.0.110}
  {ncadg_ip_udp 36.190.0.137}
  {ncacn_ip_tcp 36.190.0.137}
  {ncadg_ip_udp 36.190.0.184}}
noobjects
```

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endpoint map

```
{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {e1af8308-5d1f-11c9-91a4-08002b14a0fa 3.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 135}}
 {annotation {Endpoint Resolution}}}

{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {e1af8308-5d1f-11c9-91a4-08002b14a0fa 3.0}}
 {binding {ncadg_ip_udp 36.190.0.43 135}}
 {annotation {Endpoint Resolution}}}

{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {c57e83f0-58be-11ca-901c-08001e039448 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 135}}
 {annotation {Security Certification}}}

{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {c57e83f0-58be-11ca-901c-08001e039448 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 135}}
 {annotation {Security Certification}}}
```

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endpoint map (continued)

```
{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {a76e832a-10df-11cd-9056-080009242444 2.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 135}}
 {annotation {Login Pre-Authentication}}}

{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {a76e832a-10df-11cd-9056-080009242444 2.0}}
 {binding {ncadg_ip_udp 36.190.0.43 135}}
 {annotation {Login Pre-Authentication}}}

{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {5d978990-4851-11ca-9937-08001e039448 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 135}}
 {annotation {Password Override}}}

{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {5d978990-4851-11ca-9937-08001e039448 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 135}}
 {annotation {Password Override}}}
```

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endpoint map (continued)

```
{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {0075c5f7-0e11-1d34-a24d-0000c09ce054 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 135}}
 {annotation {Security Validation}}}

{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {0075c5f7-0e11-1d34-a24d-0000c09ce054 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 135}}
 {annotation {Security Validation}}}

{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {b47c9460-567f-11cb-8c09-08001e04de8c 0.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 135}}
 {annotation {Extended Attribute Schema}}}

{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {b47c9460-567f-11cb-8c09-08001e04de8c 0.0}}
 {binding {ncadg_ip_udp 36.190.0.43 135}}
 {annotation {Extended Attribute Schema}}}

{{object 3e595a6a-9d6c-11cf-ad56-24be002baa77}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 135}}
 {annotation {DCED ACL Manager}}}
```

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endpoint map (continued)

```
{{interface {6c8620b9-c6d3-11ca-bb96-08002b1c8f1f 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1033}}
 {annotation {CDS Advertiser management}}}

{{interface {6c8620b9-c6d3-11ca-bb96-08002b1c8f1f 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33228}}
 {annotation {CDS Advertiser management}}}

{{object dc8c6fc0-6143-11ca-b4b9-08002b1bb4f5}
 {interface {000cf72e-0688-1acb-97ad-08002b12b8f8 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1033}}
 {annotation {CDS Advertiser servicablility}}}

{{object dc8c6fc0-6143-11ca-b4b9-08002b1bb4f5}
 {interface {000cf72e-0688-1acb-97ad-08002b12b8f8 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33228}}
 {annotation {CDS Advertiser servicablility}}}

{{interface {d5579459-8bca-11ca-b771-08002b1c8f1f 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1033}}
 {annotation {CDS Advertiser/Solicitation}}}

{{interface {d5579459-8bca-11ca-b771-08002b1c8f1f 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33228}}
 {annotation {CDS Advertiser/Solicitation}}}

{{object dc8c6fc0-6143-11ca-b4b9-08002b1bb4f5}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 0.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1033}}
 {annotation {CDS Advertiser rdaclif_v0_0 for management}}}

{{object dc8c6fc0-6143-11ca-b4b9-08002b1bb4f5}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 0.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33228}}
 {annotation {CDS Advertiser rdaclif_v0_0 for management}}}

{{object dc8c6fc0-6143-11ca-b4b9-08002b1bb4f5}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1033}}
 {annotation {CDS Advertiser rdaclif_v1_0 for management}}}
```

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endpoint map (continued)

```
{{object dc8c6fc0-6143-11ca-b4b9-08002b1bb4f5}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33228}}
 {annotation {CDS Advertiser rdaclif_v1_0 for management}}}

{{object 8f961346-d45d-11cf-b382-24be002baa77}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1036}}
 {annotation {Audit ACL Manager}}}

{{object 8f961346-d45d-11cf-b382-24be002baa77}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33231}}
 {annotation {Audit ACL Manager}}}

{{object 8f961346-d45d-11cf-b382-24be002baa77}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 0.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1036}}
 {annotation {Audit ACL Manager}}}

{{object 8f961346-d45d-11cf-b382-24be002baa77}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 0.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33231}}
 {annotation {Audit ACL Manager}}}

{{object 8f961346-d45d-11cf-b382-24be002baa77}
 {interface {006a04b4-e1c1-1c14-a5f2-02608c0ff790 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1036}}
 {annotation {Audit control interface}}}

{{object 8f961346-d45d-11cf-b382-24be002baa77}
 {interface {006a04b4-e1c1-1c14-a5f2-02608c0ff790 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33231}}
 {annotation {Audit control interface}}}

{{object 8f961346-d45d-11cf-b382-24be002baa77}
 {interface {000cf72e-0688-1acb-97ad-08002b12b8f8 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1036}}
 {annotation {AUDIT SVC}}}

{{object 8f961346-d45d-11cf-b382-24be002baa77}
 {interface {000cf72e-0688-1acb-97ad-08002b12b8f8 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33231}}
 {annotation {AUDIT SVC}}}
```

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endpoint map (continued)

```
{{interface {5bc45f35-2652-11cd-8b09-08002b3c98dd 2.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1045}}
 {annotation {Time Service Control}}}

{{interface {5bc45f35-2652-11cd-8b09-08002b3c98dd 2.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33238}}
 {annotation {Time Service Control}}}

{{object 019ee420-682d-11c9-a607-08002b0dea7a}
 {interface {000cf72e-0688-1acb-97ad-08002b12b8f8 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1045}}
 {annotation {Time SVC}}}

{{object 019ee420-682d-11c9-a607-08002b0dea7a}
 {interface {000cf72e-0688-1acb-97ad-08002b12b8f8 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33238}}
 {annotation {Time SVC}}}

{{object 019ee420-682d-11c9-a607-08002b0dea7a}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 1.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1045}}
 {annotation {Time Service ACL Mgr}}}

{{object 019ee420-682d-11c9-a607-08002b0dea7a}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 1.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33238}}
 {annotation {Time Service ACL Mgr}}}

{{object 019ee420-682d-11c9-a607-08002b0dea7a}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 0.0}}
 {binding {ncacn_ip_tcp 36.190.0.43 1045}}
 {annotation {Time Service ACL Mgr}}}

{{object 019ee420-682d-11c9-a607-08002b0dea7a}
 {interface {47b33331-8000-0000-0d00-01dc6c000000 0.0}}
 {binding {ncadg_ip_udp 36.190.0.43 33238}}
 {annotation {Time Service ACL Mgr}}}
dcecp>
```

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clearing house

```
dcecp> clearinghouse help
catalog             Returns the names of all clearinghouses in a cell.
create              Creates the named clearinghouse.
delete              Deletes the named clearinghouse.
disable             Disables the named clearinghouse.
initiate            Initiates an action on the named CDS clearinghouse.
repair              Repairs an aspect of the named CDS clearinghouse.
show                Returns the attributes of a clearinghouse.
verify              Verifies the consistency of the clearinghouse.
help                Prints a summary of command-line options.
operations          Returns the valid operations for command.
dcecp> clearinghouse catalog
/.../stanford.edu/dceauth1_ch
/.../stanford.edu/dceauth3_ch
dcecp>
```

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clock

```
dcecp> help clock
compare             Returns the difference between the local clock and a server.
set                 Set the system clock to the specified time.
show                Returns the current time as a DTS style timestamp.
synchronize         Synchronizes the local dtsd with DTS servers.
help                Prints a summary of command-line options.
operations          Returns the valid operations for command.
dcecp> clock show
1996-07-09-14:21:19.155-07:00I0.793
dcecp>
```

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cds alias

```
dcecp> help cdsalias
catalog             Returns the aliases known by CDS for the named cell.
connect             Establishes a hierarchical relationship between two cells.
create              Creates the named cdsalias for the local cell.
delete              Deletes the existing cdsalias for the local cell.
set                 Sets the named cdsalias as the primary cdsalias for the local
 cell.
help                Prints a summary of command-line options.
operations          Returns the valid operations for command.
dcecp> cdsalias cat
{CDS_CellAliases {}}
dcecp>
```

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cds cache

```
dcecp> help cdscache
create              Adds information about named server in local cds cache.
delete              Removes information about named server in local cds cache.
dump                Dump all information from local cds cache.
show                Returns information stored in cds cache.
help                Prints a summary of command-line options.
operations          Returns the valid operations for command.
dcecp> cdscache dump
Error: This command can be executed as user 'root'.
dcecp>
```

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uuid

```
dcecp> help uuid
create              Returns a newly generated UUID.
compare             Compares two UUID's for equality.
help                Prints a summary of command-line options.
operations          Returns the valid operations for command.
dcecp> uuid create
01221a64-d9d1-11cf-a18d-24be002baa77
dcecp> uuid create
02854d5e-d9d1-11cf-a18d-24be002baa77
dcecp> uuid create
02fa17ec-d9d1-11cf-a18d-24be002baa77
dcecp> uuid create
036773d2-d9d1-11cf-a18d-24be002baa77
dcecp> uuid create
05f7f9dc-d9d1-11cf-a18d-24be002baa77
```

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