



Nordiasoft

On the Migration to SCA v4.1

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Outline

- **What is SCA?**
- **Zero Merge Code Generation**
- **“Cliff Jump” versus “Progressive” Transition**

What is the SCA

- **Software Infrastructure to support Embedded Systems Applications**
 - **Enabler to Deploy/Launch Business Logic**
 - **Not the goal.... Just a means to...**
-
- **... Thus the SCA infrastructure should be Non-obstructive...**

What is the SCA v 4.1

- **SCA v 2.2.2 plus...**

- **Multi-core support**

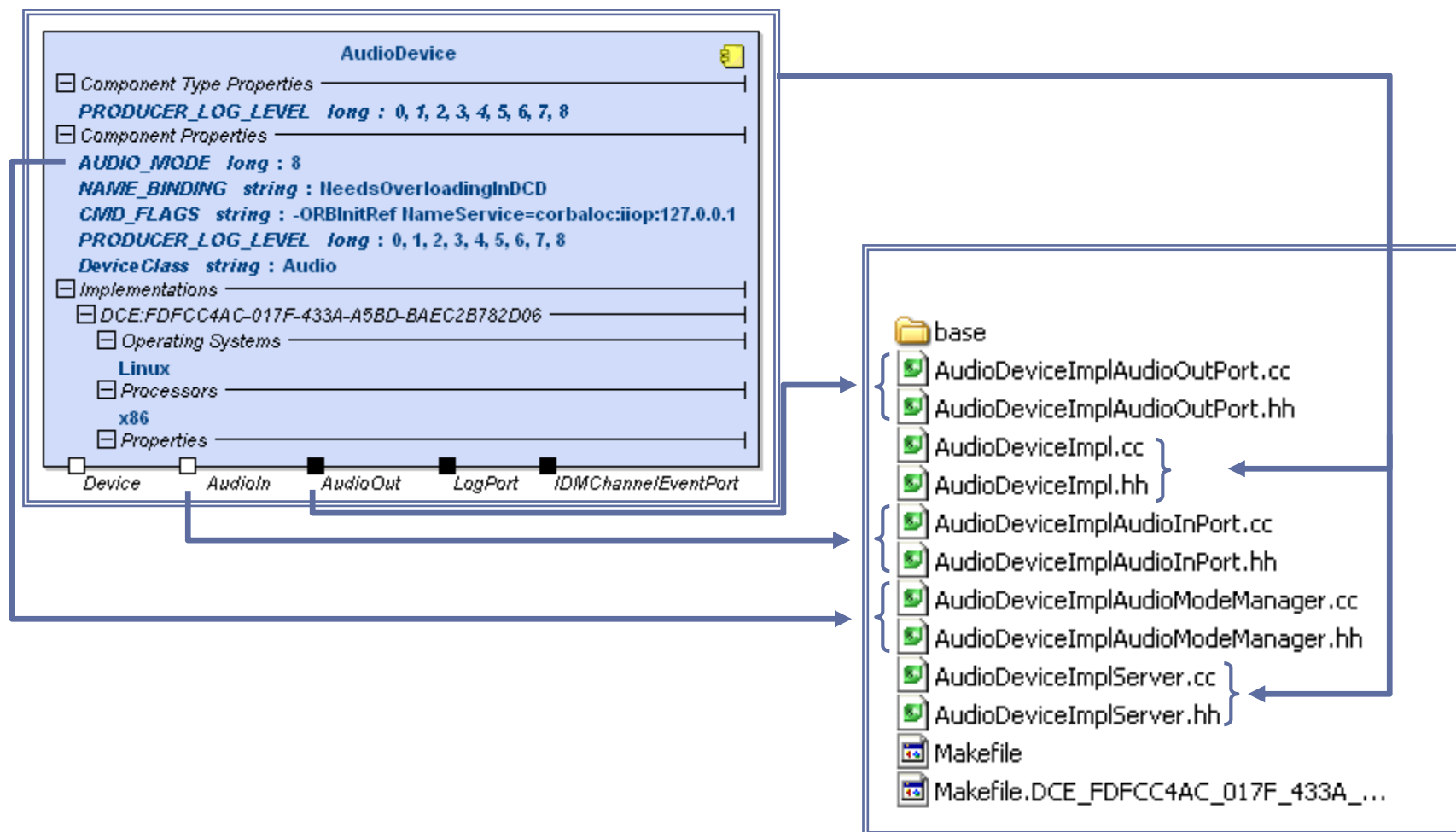
- **Faster boot-up**
 - **Static deployment techniques**

- **Information Assurance**
 - **Development vs Production**

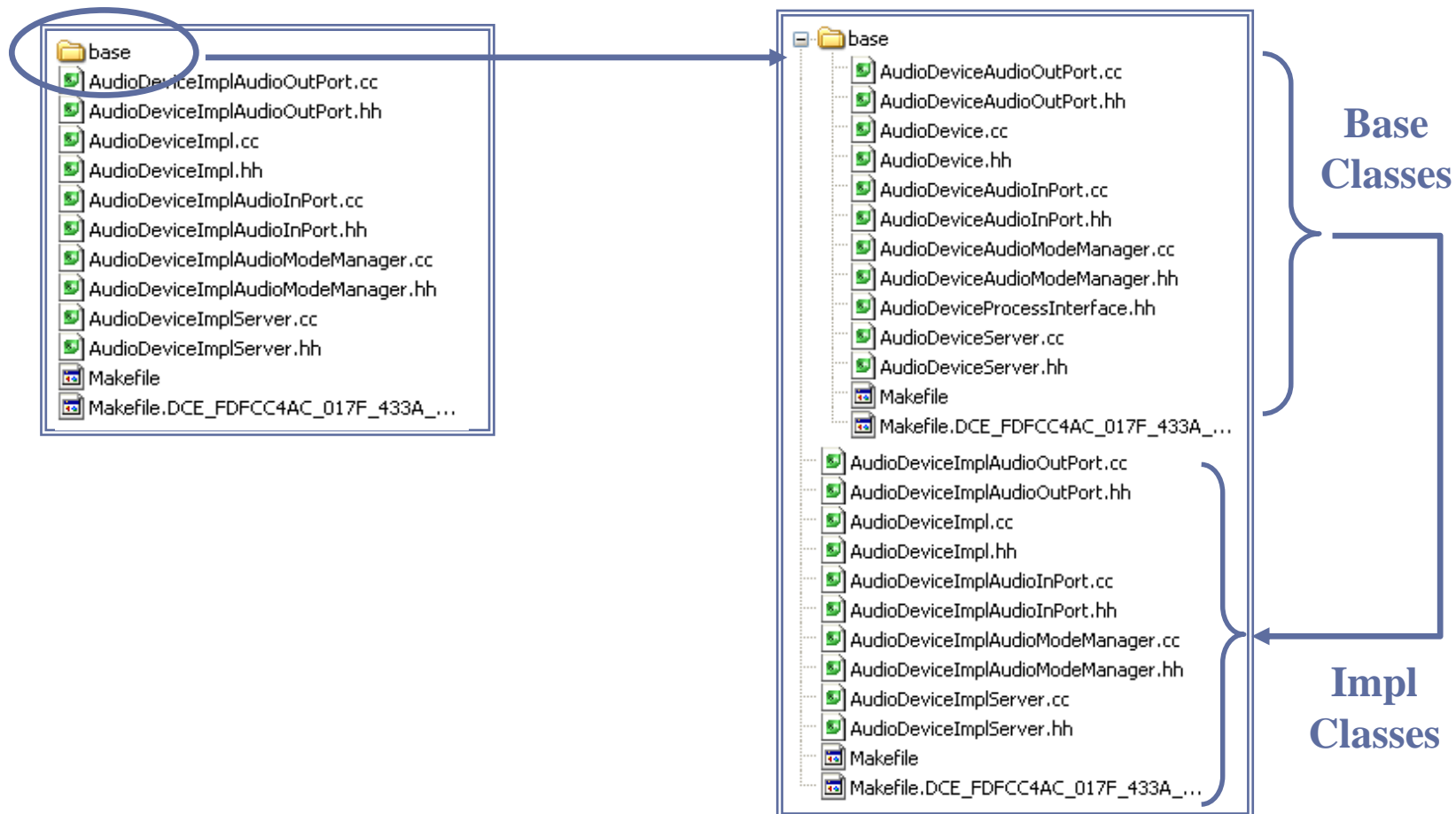
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Zero Merge Code Generation



Zero Merge Code Generation (cont)



Zero Merge Code Generation (cont)

```

#include "AudioDeviceAudioOutPort.hh"

/**
 * Implementation of a CF::Port servant for uses port "AudioOut".
 */
class AudioDeviceImplAudioOutPort :
    public AudioDeviceAudioOutPort
{
public:

    AudioDeviceImplAudioOutPort();

    ~AudioDeviceImplAudioOutPort();

protected:
}; //class AudioDeviceImplAudioOutPort

#endif //AUDIODEVICEIMPLAUDIOOUTPORT_HH

```

Implementation .hh

AudioDeviceImplAudioOutPort.hh

```

/**
 * Implementation of a CF::Port servant for uses port "AudioOut".
 */
class AudioDeviceAudioOutPort :
    public POA_CF::Port,
    public Synchronizable,
    public PortableServer::RefCountServantBase
{
public:
    PushPorts::DoubleSeqConsumer_var usedObject;

    AudioDeviceAudioOutPort();

    virtual ~AudioDeviceAudioOutPort();

    void connectPort(CORBA::Object_ptr connection, const char* connectionID)
        throw (CORBA::SystemException,
              CF::Port::InvalidPort,
              CF::Port::OccupiedPort);

    void disconnectPort(const char* connectionID)
        throw (CORBA::SystemException,
              CF::Port::InvalidPort);

protected:
    char* connectionID;
}; //class AudioDeviceAudioOutPort

#endif //AUDIODEVICEAUDIOOUTPORT_HH

```

Base .hh

AudioDeviceAudioOutPort.hh

Zero Merge Code Generation (cont)

```
#include "AudioDeviceImplAudioOutPort.hh"

/**
 * Complete constructor.
 */
AudioDeviceImplAudioOutPort::AudioDeviceImplAudioOutPort () :
    AudioDeviceAudioOutPort ()
{
}

/**
 * Default Destructor
 */
AudioDeviceImplAudioOutPort::~AudioDeviceImplAudioOutPort ()
{
}
```

Implementation .cc

AudioDeviceImplAudioOutPort.cc

```
#include <sstream>
#include <string>
#include "AudioDeviceAudioOutPort.hh"

using namespace std;

AudioDeviceAudioOutPort::AudioDeviceAudioOutPort () :
    connectionID (0)
{
    usedObject = PushPorts::DoubleSeqConsumer::_nil();
}

AudioDeviceAudioOutPort::~AudioDeviceAudioOutPort ()
{
}

void AudioDeviceAudioOutPort::connectPort (CORBA::Object_ptr connection,
                                           const char* connectionID)
{
    throw (CORBA::SystemException,
          CF::Port::InvalidPort,
          CF::Port::OccupiedPort)
{
    lock();

    if (!CORBA::is_nil(usedObject))
    {
        unlock();
        throw CF::Port::OccupiedPort();
    }

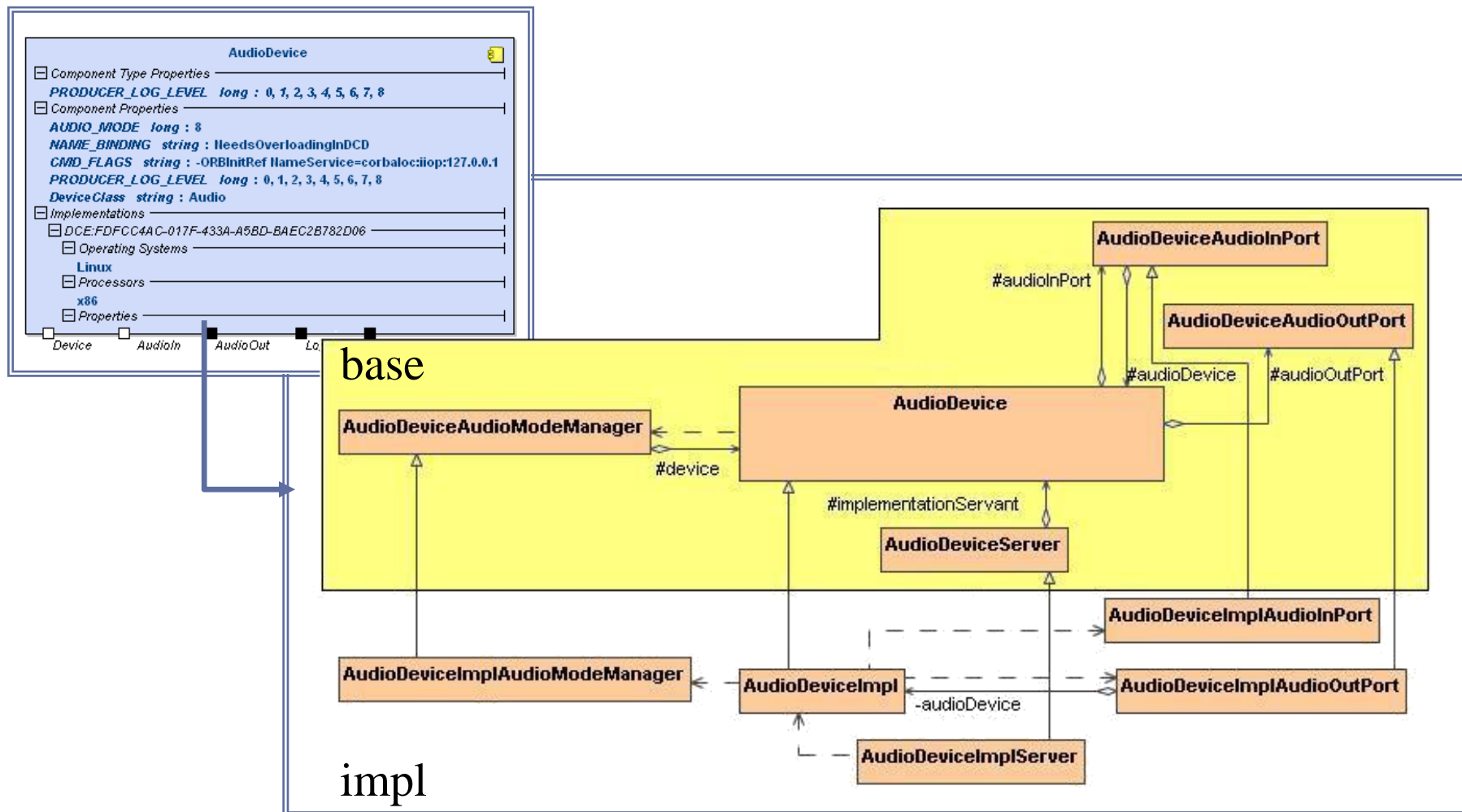
    if ((CORBA::is_nil(connection)) ||
        (!connection->_is_a("IDL:PushPorts/DoubleSeqConsumer:1.0")))
    {
        string msg;
        msg.append("[ AudioDeviceAudioOutPort::connectPort] Destination ");
        msg.append("component for connection id= ").append(connectionID);
        msg.append(" must be of type IDL:PushPorts/DoubleSeqConsumer:1.0");
        unlock();
        throw CF::Port::InvalidPort(1, msg.c_str());
    }

    usedObject = PushPorts::DoubleSeqConsumer::_narrow(connection);
    this->connectionID = charDup(connectionID);
    unlock();
} //connectPort
```

Base .cc

AudioDeviceAudioOutPort.cc

Zero Merge Code Generation (cont)



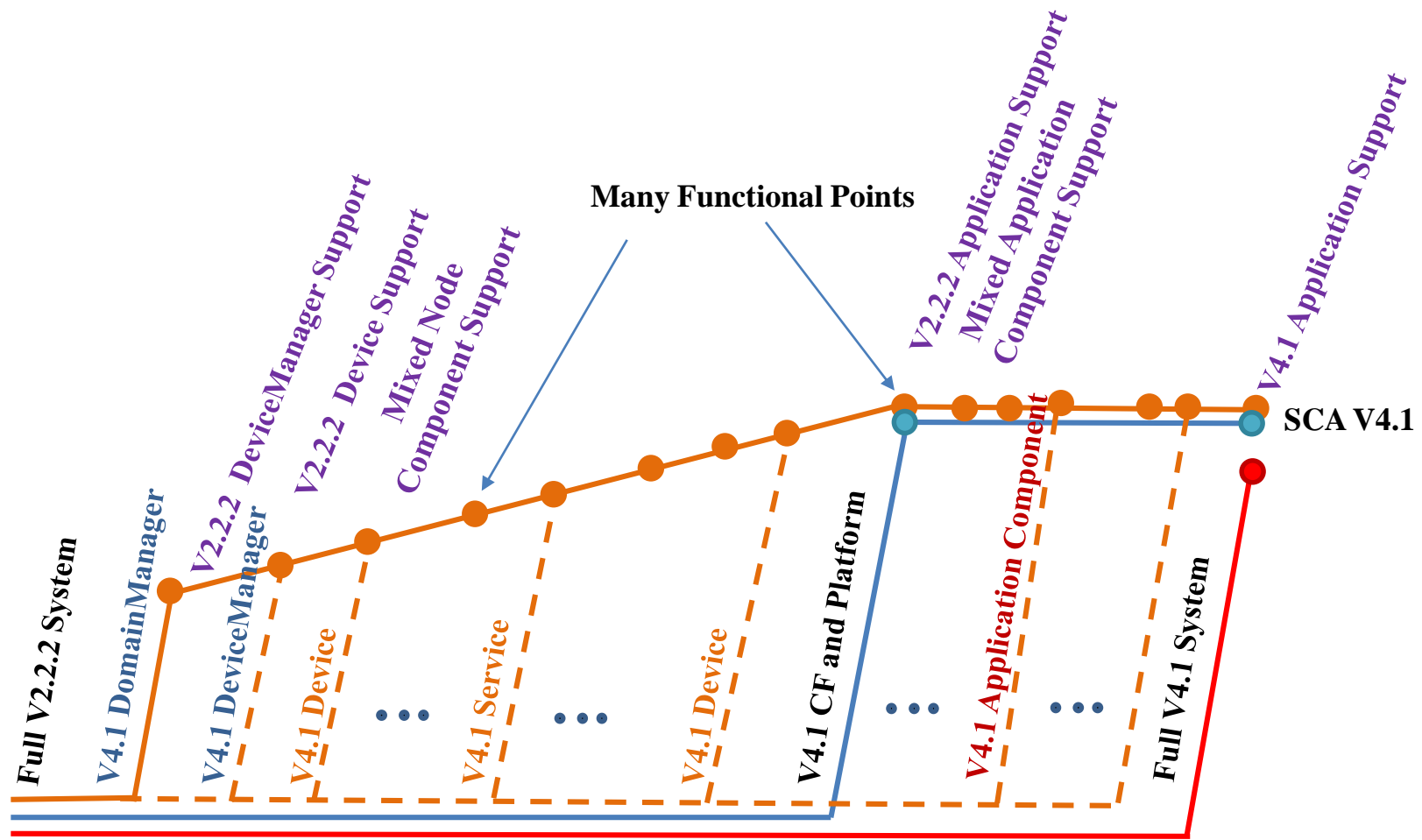
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“Cliff Jump” versus “Progressive” Transition



“Cliff Jump” versus “Progressive” Transition



Thanks!

Questions?

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