

In [37]:

```
import numpy as np
import pandas as pd
from scipy import stats as sts
import matplotlib.pyplot as plt
import math
import seaborn as sbn
from sklearn import metrics as mts
import csv
%pylab inline
```

Populating the interactive namespace from numpy and matplotlib

```
/home/dima/anaconda3/lib/python3.6/site-packages/IPython/core/magic
s/pylab.py:161: UserWarning: pylab import has clobbered these variab
les: ['sample']
`%matplotlib` prevents importing * from pylab and numpy
"\n`%matplotlib` prevents importing * from pylab and numpy"
```

In [38]:

```
sample = np.genfromtxt('6.csv', delimiter=',')
sample = sample[3:]
lambd = 45
t_0 = 100
t = 50000
```

$$E(N_t|N_s) = E(N_s + N_t - N_s|N_s) = N_s + E(N_t - N_s) = N_s + (t - s)/\lambda$$

In [39]:

```
s = np.linspace(0, t, 10000)
N_s = np.array(list(map(lambda s_once: len(sample[np.cumsum(sample) <= s_once]),
s)))
plt.figure(figsize=(20, 10))
plt.plot(s, N_s + (t - s)/lambd, label='lambda ={0}'.format(lambd))
plt.legend()
plt.grid(ls=':')
plt.show()
```

